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September 1997

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# MONTHLY LABOR REVIEW

U.S. Department of Labor

Bureau of Labor Statistics

*In this issue:*

## Evaluating the 1995 BLS projections

*How well did BLS project 1995 jobs?*

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The *Monthly Labor Review* is published by the Bureau of Labor Statistics of the U.S. Department of Labor. Communications on editorial matters should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC 20212. Phone (202) 606–5900.

Subscription price per year—$29 domestic; $36.25 foreign. Single copy—$7.50 domestic; $9.38 foreign. Subscription prices and distribution policies for the *Monthly Labor Review* (ISSN 0098-1818) and other Government publications are set by the Government Printing Office, an agency of the U.S. Congress. Send correspondence on circulation and subscription matters (including address changes) to:

Superintendent of Documents
Government Printing Office
Washington, DC 20402

Make checks payable to Superintendent of Documents.

The Secretary of Labor has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Second-class postage paid at Washington, DC, and at additional mailing addresses.

Information from the *Monthly Labor Review* is available to sensory impaired individuals upon request. Voice phone: (202) 606–7828.
TDD phone: (202) 606–5897.
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Cover design by Keith Tapscott

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## The September *Review*

Not to far from our offices, the National Archives have a quotation to the effect that "those who do not remember history are doomed to repeat it" chiseled in stone. In this issue's lead package of articles, Neal Rosenthal and his colleagues remember what we had said in the early 1980s about what the jobs picture would look like in 1995. Their purpose is exactly to identify the strengths and weaknesses in the Bureau's projections procedures in order to build upon the former and avoid repeating the latter. The process seems to be working. The labor force projections correctly identified the significant slowing rate of labor force growth for the 1984-95 period, compared with the previous 11 years. Most of the major industry sectors projected to have faster-than-average growth did so. And the direction of employment change was projected correctly for all nine major occupation groups.

Howard Hayghe traces the evolution of women's participation in the labor force over the past two decades. The proportion of women who are participating in the labor force began to grow shortly after World War II and by the 1970s, it became one of the most powerful trends in the modern economy. In the 1980s, the trend began to moderate to the point that the early 1990s saw no increase in women's labor force participation rate. Beginning in 1994, however, Hayghe finds that participation rates are once again going higher.

Cynthia Engel finds that our increasing demand for paper—per capita consumption of paper goods has gone up 43 percent since 1980—is being supplied by fewer, more productive workers.

Thomas Hale contributes a report on the issue of the working poor, and Sharon Cohany reviews two books on nonstandard work arrangements—part time and temporary employment.

## Report out

The 1997 edition of the *Report on the American Workforce* was released on Labor Day. Researchers from the Bureau of Labor Statistics explore the issues of what skills to acquire for the working years and how to ensure security in the retirement years, two of the most important choices that American workers must make. The *Report* also looks at the current state of research on experimental methods of doing interarea comparisons of compensation and prices.

The first chapter examines the extent to which education leads to success in the labor market. In general, the labor market rewards more education, and, at the college level, the type of education clearly matters. However, the labor market consequences of non-college schooling choices are not clear from the existing evidence.

Analyses of retirement issues often refer to a "three-legged stool" of retirement income—Social Security, employer-provided retirement benefits, and personal assets. Looking at incomes of Americans age 65 and older, however, some of the "legs" often are missing; and those that are present are usually of unequal length. The *Report* draws heavily on data from supplements to the Current Population Survey sponsored by the Pension and Welfare Benefits Administration to analyze these issues.

This *Report* also discusses the methodological issues that would be involved in constructing indexes that permit interarea comparisons of prices or compensation costs for a standard "market basket" of consumer goods or labor services. The *Report* applies one such method to identify high and low price and labor cost areas.

Copies of *Report on the American Workforce, 1997 Edition* can be purchased for $11 from the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690–2145, phone 312–353–1800, or the Superintendent of Documents, U.S. Government Printing Office, Mail Stop SSOP, Washington, DC 20402–1328, phone 202–512–1800.

## Is it a revolution yet?

A "real" industrial revolution, according to Northwestern University professor Joel Mokyr, involves not only dramatic and pervasive technological innovation, but innovation of a sort that change the way production is organized. "They shift cost curves not only by lowering them but by changing the optimal firm scale," Mokyr reports in the Federal Reserve Bank of Kansas City's *Economic Review*. After acknowledging the number, breadth, and impact of technological advances in the second half of the 20th century, Mokyr suggests that what might really give this era a claim to revolutionary status is the possibility that they may lead to a reversal of a 200-year trend toward the centralization of production. "To put it as provocatively as I can," he writes, "the Industrial Revolution began the separation between home and workplace; our own time may be witnessing the beginning of the movement in reverse."

## The October *Review*

Next month we plan to present articles on immigration and wages, jobs in California's multimedia industry, and price measures for exports and pharmaceuticals. □

# Evaluating the 1995 BLS projections

*Projections of the labor force and industry and occupational projections to 1995 were relatively accurate; differences that did occur are identified and analyzed to inform users and to improve future projections*

## Introduction

Neal H. Rosenthal

Howard N Fullerton, Jr., Arthur Andreassen, and Carolyn M. Veneri

The Bureau of Labor Statistics prepares projections of the labor force, industry employment, and occupational employment every other year. Because of the uncertainty inherent in making these projections, the Bureau evaluates the results of past projections each time a target year is reached, to gauge how well the projections tracked against actual change. The evaluations provide users of BLS projections with information to enhance their understanding of the problems faced in developing accurate projections and to assess the manner of using projections in the future. Among the many users of projections are those in the fields of career guidance, education planning, and public policy formulation. In these fields, numerous decisions are made based on differences in projected labor force growth rates by race, age, sex, and Hispanic origin and on comparisons of growth rates among industries and occupations. State employment security agencies incorporate data from BLS projections into the models they use to develop industry and occupational projections for their State. Business officials in the private sector utilize the projections in personnel planning and marketing research. Academic researchers employ the projections as background information to study a wide variety of topics dealing with the labor market. Knowledge of the accuracy of BLS projections affects whether an individual or agency will rely on the projections in the future and, if so, how the projections will subsequently be used.

The Bureau also considers evaluation to be an important stage of its projections program. Through evaluation, the Bureau can identify strengths and weaknesses in procedures used to prepare the projections. Such identification leads to changes in those procedures for use in the development of later projections.

Many causes of inaccuracies in the projections are identified in studies comparing actual with projected change in the labor force, industry employment, and occupational employment. Some of the broad assumptions made in the models used to develop the projections, such as levels of defense expenditures, are very sensitive to political forces and, therefore, subject to great uncertainty over a 10-year period. Other broad assumptions, such as the strength of the world economy, also are subject to considerable variability and are very important to levels of exports and imports that have a great impact on employment. In addition, a multitude of judgments stemming from the analyses conducted by BLS staff in determining specific effects of technological change are subject to significant error. For example, in assessing the impact of word-processing equipment on the employment of typists, it seemed clear in 1984 that technology would have a negative effect. That assessment turned out to be correct, but the projected decreases in the utilization of typists made by BLS analysts in gauging future staffing patterns of industries fell short of actual decreases.

Howard N Fullerton, Jr., is a demographic statistician in the Office of Employment Projections, Bureau of Labor Statistics. Arthur Andreassen and Carolyn M. Veneri are economists in the same office.

Neal H. Rosenthal is Associate Commissoner, Office of Employment Projections, Bureau of Labor Statistics.

## Evaluation measures

The general procedure the Office of Employment Projections uses to evaluate projections is to compare projected with actual data. Such comparisons can be presented in a variety of statistical measures, such as percent change or numerical growth. One of the problems with these measures is that it is difficult to determine the quality of the projections, because there are no established criteria to categorize them as good or bad. For example, if actual data show that employment in an occupation increased by 20 percent, and the Bureau projected a growth rate of, say, 10 percent (or 30 percent or 40 percent, for that matter), it is not clear whether the projected rate is good or bad. Consequently, users must establish their own standards of quality, based on the uses they make of the projections. In general, if their decisions would not differ if the projections were perfect, then the error is not significant. For instance, referring back to the foregoing numbers, if a user would have made the same decisions if the projected level were perfect (20 percent) as he or she in fact made with the 30-percent projection of growth, then the 30-percent projection may not be accurate, but it can be assumed to be accurate enough for that user's needs.

Because standards are not available, several measures that compare projected and actual employment are presented in the evaluations of labor force, industry employment, and occupational employment projections that follow. These include a simple comparison of the direction of change to see whether employment in the occupations that were projected to grow or decline actually did change in the direction projected. Numerical change also is presented, but the use of this measure to determine general accuracy can distort an evaluation, because the quality of projections having the same numerical error are different for occupations having different employment levels in the base year of the projection. For this reason, the measure given the most attention in the evaluations is the absolute percent error—the numerical error (positive or negative) divided by actual employment in the target year of the projection. Another measure used to evaluate the projections is a comparison of the distribution of the projected change with the distribution of the actual change. This measure is important for identifying whether any particular projection errors are related to judgment errors tied to a specific industry or occupation or to general projections of total employment.

The projection period used by the Bureau typically has ranged from 10 to 15 years, with the target year always ending in a zero or a five. The year 1995 was the target year of two sets of projections, 1982–95 and 1984–95. Only the 1984–95 projections are evaluated in this article, because the classification of occupations that was used for the 1982–95 projections was based on a system significantly different from the one used to tabulate current 1995 data. The Bureau's 1984–95 projections included three alternative scenarios, labeled high, moderate, and low growth. Only the moderate-growth projections are evaluated here, as they were the chief ones used by the Bureau, the alternatives having been used only sparingly, not just by the Bureau, but by others as well. In the 1996–2006 projections currently being developed (to be published in the November 1997 issue of the *Review*), only a moderate-growth scenario is being prepared.

The reader should note that differences in projected change and actual change are subject to measurement error because of both normal response errors and statistical errors associated with the surveys used to measure current employment in the base year, as well as the target year, of the projections. Some of these errors stem from changes in the surveys used to compile the data over time. For example, a modification was made to the Current Population Survey (CPS) in 1994 that significantly changed the reporting of labor force participation for older workers. This in turn had a measurable, significant impact on the quality of labor force participation rate projections for these workers. Accordingly, some projection errors identified in the evaluations may well reflect the effect of data collection changes in the CPS.

The labor force, industry employment, and occupational employment projections are highly interrelated, as the models used to develop each of these segments are dependent on each other. For example, the labor force projections have a great bearing on total employment projections, and industry employment projections influence occupational projections, because occupations tend to be concentrated by industry. The closeness of these relationships is shown clearly in the evaluations.

In general, the evaluations demonstrate that the BLS projections captured major trends in the labor force, in industry employment, and in occupational employment. The discussions that follow, however, each written by a different author, tend to focus on the *inaccuracies* of the projections. Odd though this may seem, it enables users to get a better understanding of the factors that are most likely to lead to projection errors. □

# Evaluating the 1995 labor force projections

*More accurate projections of population, shorter projection periods, and reduced labor force growth made BLS labor force projections to 1995 marginally better than those to 1990*

Howard N Fullerton, Jr.

For the 1984–95 period, the Bureau of Labor Statistics correctly identified the most significant labor force trends. In terms of the direction of change in labor force participation rates, the most significant errors were in the cases of very young workers and older workers. These errors, however, had a small impact on the projection error for the total labor force because of the relatively small number of workers in the two age groups.

## Levels

The projection of the total civilian labor force, 129.2 million, was 3.1 million lower than the actual 1995 labor force of 132.3 million, an error of 2.8 percent.[1] (See table 1.) The Bureau correctly projected the slowing rate of labor force growth for the 1984–95 period, compared with the previous 11 years. The 27-percent increase from 1973 to 1984 was projected to slow to 13.8 percent from 1984 to 1995, but the actual slowing was somewhat less, as the actual growth was 16.5 percent. That the projected rate of growth was lower than the actual rate reflects offsetting errors in the population projections prepared by the Bureau of the Census and the labor force participation rates for specific age, sex, and racial groups that were prepared by the BLS.

The labor force for both men and women was projected too low, with two-thirds of the error accounted for by men. White men over the age of 60 were underprojected by more than 1 million, or nearly half of the 2.1 million error for men, although they accounted for less than 6 percent of the labor force in 1995. Black and other men were underprojected at every age group, except for those 45 to 49 years. Young men from 20 to 24 also were underprojected, by 549,000, roughly 26 percent of the error; they were only 10.3 percent of the labor force in 1995. The projections for black and other women were highly accurate, except for those older than 70 and those under 24 years of age. White women older than 45 were significantly underprojected, in contrast to white women 20 to 39 years, who were overprojected.

The projection error was 1.9 percent for whites and 8.4 percent for blacks and others. The latter group was underprojected by 1.3 million, roughly 40 percent of the total error, although it accounted for only 15 percent of the labor force in 1995. For these workers, 22 of the 26 age and sex groups for which projections were developed were underprojected. Population underprojections, probably chiefly of Asians, who make up a large part of the "other" group, are largely responsible for this error. Except for the underprojection of older and younger workers, the individual age and sex group projections for whites were more evenly split between under- and overprojections.

Despite the relatively large projection errors for some groups, the projected distribution of the labor force in 1995 by age, sex, and race was very close to the actual distribution. As might be expected from the foregoing discussion, the projected share for blacks (14.8 percent) was lower than their actual share (15.4 percent), but nevertheless fairly accurate when viewed by separate age and sex groups.

## Labor force participation

The Bureau's major input to the 1995 labor force projections was the projection of labor force participation rates for specific age, sex, and racial groups, which rates were then applied to population projections developed by the Bureau of the Census. The accuracy of the overall projection of labor force participation, 66.6 percent, reflects several offsetting errors for age, sex, and racial groups. Definite patterns are revealed by the errors for the age groups 16 to 24 (youth), 25 to 59 (prime-age workers), and 60 and older (older workers) for men and women in each of the two racial groups for which projections were evaluated, namely, "whites" and "blacks and others."

The direction of change was projected correctly for all age, sex, and racial subgroups in the prime-age group, except 25-to-29-year-old white men and 40-to-44-year-old black men. Participation rates for both of these were projected to remain unchanged, and both declined. The rates for all other age subgroups of prime-age men, in both racial groups, were projected to decline, and all did. In almost all of the groups, however, the projected rate of decline was less than what actually occurred. The largest error was the result of greater-than-projected declines in the labor force participation of black and other males 35 to 49 years of age. (See table 2.)

For prime-age women, participation rates for all age subgroups, both for whites and for blacks and others, were correctly projected to increase. For

**Table 1. Civilian labor force, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Labor force group | 1984 | 1995 | | Percent change, 1984–95 | | Numerical error (projected minus actual) | Percent error | Share of labor force, 1995 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Projected | Actual | Projected | Actual | | | Projected | Actual |
| Total | 113,544 | 129,168 | 132,304 | 13.8 | 16.5 | −3,136 | −2.8 | 100.0 | 100.0 |
| Men, 16 and older | 63,835 | 69,282 | 71,360 | 8.5 | 11.8 | −2,078 | −3.3 | 53.6 | 53.9 |
| Women, 16 and older | 49,709 | 59,886 | 60,944 | 20.5 | 22.6 | −1,058 | −2.1 | 46.4 | 46.1 |
| White | 98,492 | 110,086 | 111,950 | 11.8 | 13.7 | −1,864 | −1.9 | 85.2 | 84.6 |
| Men | 56,062 | 59,894 | 61,146 | 6.8 | 9.1 | −1,252 | −2.2 | 46.4 | 46.2 |
| 16 and 17 years | 1,420 | 1,374 | 1,429 | −3.2 | .7 | −55 | −3.9 | 1.1 | 1.1 |
| 18 and 19 years | 2,189 | 1,904 | 1,998 | −13.0 | −8.7 | −94 | −4.3 | 1.5 | 1.5 |
| 20 to 24 years | 7,370 | 5,773 | 6,096 | −21.7 | −17.3 | −323 | −4.4 | 4.5 | 4.6 |
| 25 to 29 years | 8,315 | 7,074 | 7,224 | −14.9 | −13.1 | −150 | −1.8 | 5.5 | 5.5 |
| 30 to 34 years | 7,721 | 8,390 | 8,445 | 8.7 | 9.4 | −55 | −.7 | 6.5 | 6.4 |
| 35 to 39 years | 6,842 | 8,635 | 8,587 | 26.2 | 25.5 | 48 | .7 | 6.7 | 6.5 |
| 40 to 44 years | 5,506 | 7,880 | 7,827 | 43.1 | 42.2 | 53 | 1.0 | 6.1 | 5.9 |
| 45 to 49 years | 4,518 | 6,920 | 6,740 | 53.2 | 49.2 | 180 | 4.0 | 5.4 | 5.1 |
| 50 to 54 years | 4,165 | 5,163 | 4,991 | 24.0 | 19.8 | 172 | 4.1 | 4.0 | 3.8 |
| 55 to 59 years | 3,880 | 3,605 | 3,589 | −7.1 | −7.5 | 16 | .4 | 2.8 | 2.7 |
| 60 to 64 years | 2,530 | 1,873 | 2,220 | −26.0 | −12.3 | −347 | −13.7 | 1.5 | 1.7 |
| 65 to 69 years | 900 | 647 | 1,074 | −28.1 | 19.4 | −427 | −47.5 | .5 | .8 |
| 70 years and older | 705 | 656 | 926 | −7.0 | 31.3 | −270 | −38.3 | .5 | .7 |
| Women | 42,431 | 50,192 | 50,804 | 18.3 | 19.7 | −612 | −1.4 | 38.9 | 38.4 |
| 16 and 17 years | 1,300 | 1,201 | 1,320 | −7.6 | 1.5 | −119 | −9.2 | .9 | 1.0 |
| 18 and 19 years | 2,043 | 1,668 | 1,798 | −18.4 | −12.0 | −130 | −6.4 | 1.3 | 1.4 |
| 20 to 24 years | 6,363 | 5,306 | 5,170 | −16.6 | −18.7 | 136 | 2.1 | 4.1 | 3.9 |
| 25 to 29 years | 6,297 | 6,136 | 5,890 | −2.6 | −6.5 | 246 | 3.9 | 4.8 | 4.5 |
| 30 to 34 years | 5,624 | 7,166 | 6,766 | 27.4 | 20.3 | 400 | 7.1 | 5.5 | 5.1 |
| 35 to 39 years | 5,101 | 7,439 | 7,024 | 45.8 | 37.7 | 415 | 8.1 | 5.8 | 5.3 |
| 40 to 44 years | 4,139 | 6,679 | 6,674 | 61.4 | 61.2 | 5 | .1 | 5.2 | 5.0 |
| 45 to 49 years | 3,302 | 5,646 | 5,856 | 71.0 | 77.3 | −210 | −6.4 | 4.4 | 4.4 |
| 50 to 54 years | 2,915 | 4,024 | 4,218 | 38.0 | 44.7 | −194 | −6.6 | 3.1 | 3.2 |
| 55 to 59 years | 2,593 | 2,525 | 2,908 | −2.6 | 12.2 | −383 | −14.8 | 2.0 | 2.2 |
| 60 to 64 years | 1,699 | 1,460 | 1,714 | −14.1 | .9 | −254 | −14.9 | 1.1 | 1.3 |
| 65 to 69 years | 631 | 563 | 837 | −10.8 | 32.6 | −274 | −43.4 | .4 | .6 |
| 70 years and older | 423 | 379 | 629 | −10.4 | 48.8 | −250 | −59.2 | .3 | .5 |
| Black and other | 15,082 | 19,082 | 20,354 | 26.5 | 35.0 | −1,272 | −8.4 | 14.8 | 15.4 |
| Men | 7,803 | 9,388 | 10,215 | 20.3 | 30.9 | −827 | −10.6 | 7.3 | 7.7 |
| 16 and 17 years | 171 | 171 | 239 | .0 | 39.8 | −68 | −39.8 | .1 | .2 |
| 18 and 19 years | 353 | 301 | 370 | −14.7 | 4.8 | −69 | −19.5 | .2 | .3 |
| 20 to 24 years | 1,224 | 1,017 | 1,243 | −16.9 | 1.5 | −226 | −18.4 | .8 | .9 |
| 25 to 29 years | 1,285 | 1,265 | 1,428 | −1.6 | 11.1 | −163 | −12.7 | 1.0 | 1.1 |
| 30 to 34 years | 1,168 | 1,518 | 1,573 | 30.0 | 34.6 | −55 | −4.7 | 1.2 | 1.2 |
| 35 to 39 years | 955 | 1,468 | 1,497 | 53.7 | 56.8 | −29 | −3.1 | 1.1 | 1.1 |
| 40 to 44 years | 734 | 1,249 | 1,277 | 70.2 | 74.0 | −28 | −3.9 | 1.0 | 1.0 |
| 45 to 49 years | 596 | 975 | 932 | 63.6 | 56.4 | 43 | 7.1 | .8 | .7 |
| 50 to 54 years | 497 | 663 | 759 | 33.4 | 52.6 | −96 | −19.2 | .5 | .6 |
| 55 to 59 years | 386 | 412 | 427 | 6.7 | 10.6 | −15 | −3.9 | .3 | .3 |
| 60 to 64 years | 253 | 229 | 268 | −9.5 | 6.0 | −39 | −15.5 | .2 | .2 |
| 65 to 69 years | 83 | 71 | 124 | −14.5 | 49.2 | −53 | −63.7 | .1 | .1 |
| 70 years and older | 98 | 49 | 77 | −50.0 | −21.2 | −28 | −28.8 | .0 | .1 |
| Women | 7,279 | 9,694 | 10,140 | 33.2 | 39.3 | −446 | −6.1 | 7.5 | 7.7 |
| 16 and 17 years | 158 | 167 | 237 | 5.7 | 49.8 | −70 | −44.1 | .1 | .2 |
| 18 and 19 years | 308 | 271 | 374 | −12.0 | 21.4 | −103 | −33.4 | .2 | .3 |
| 20 to 24 years | 1,088 | 1,010 | 1,179 | −7.2 | 8.4 | −169 | −15.6 | .8 | .9 |
| 25 to 29 years | 1,198 | 1,304 | 1,369 | 8.8 | 14.3 | −65 | −5.5 | 1.0 | 1.0 |
| 30 to 34 years | 1,115 | 1,562 | 1,502 | 40.1 | 34.7 | 60 | 5.4 | 1.2 | 1.1 |
| 35 to 39 years | 932 | 1,513 | 1,545 | 62.3 | 65.8 | −32 | −3.4 | 1.2 | 1.2 |
| 40 to 44 years | 724 | 1,312 | 1,320 | 81.2 | 82.3 | −8 | −1.1 | 1.0 | 1.0 |
| 45 to 49 years | 558 | 1,044 | 997 | 87.1 | 78.7 | 47 | 8.4 | .8 | .8 |
| 50 to 54 years | 455 | 694 | 731 | 52.5 | 60.6 | −37 | −8.1 | .5 | .6 |
| 55 to 59 years | 382 | 449 | 485 | 17.5 | 26.8 | −36 | −9.3 | .3 | .4 |
| 60 to 64 years | 237 | 261 | 249 | 10.1 | 5.0 | 12 | 5.1 | .2 | .2 |
| 65 to 69 years | 74 | 75 | 82 | 1.4 | 10.5 | −7 | −9.2 | .1 | .1 |
| 70 years and older | 50 | 32 | 70 | −36.0 | 40.8 | −38 | −76.8 | .0 | .1 |

NOTE: Dash indicates data not available.

**Table 2. Civilian labor force participation rate, 1984 actual and 1995 projected**

[Numbers in thousands]

| Labor force group | 1984 | 1995 | | Percent change, 1984–95 | | Numerical error (projected minus actual) | Percent error |
|---|---|---|---|---|---|---|---|
| | | Projected | Actual | Projected | Actual | | |
| Total | 64.4 | 66.6 | 66.6 | 2.2 | 2.2 | 0.0 | 0.0 |
| Men, 16 and older | 76.4 | 75.3 | 75.0 | −1.1 | −1.4 | .3 | .4 |
| Women, 16 and older | 53.6 | 58.9 | 58.9 | 5.3 | 5.4 | .0 | −.1 |
| White | 64.6 | 66.8 | 67.1 | 2.2 | 2.4 | −.3 | −.4 |
| Men | 77.1 | 75.8 | 75.7 | −1.3 | −1.4 | .1 | .1 |
| 16 and 17 years | 47.0 | 49.3 | 47.7 | 2.3 | .7 | 1.6 | 3.3 |
| 18 and 19 years | 70.7 | 75.6 | 69.9 | 4.9 | −.9 | 5.7 | 8.2 |
| 20 to 24 years | 86.5 | 89.5 | 85.1 | 3.0 | −1.4 | 4.4 | 5.2 |
| 25 to 29 years | 94.8 | 94.9 | 93.6 | .1 | −1.2 | 1.3 | 1.4 |
| 30 to 34 years | 96.0 | 95.6 | 94.5 | −.4 | −1.5 | 1.1 | 1.1 |
| 35 to 39 years | 96.3 | 95.3 | 93.7 | −1.0 | −2.6 | 1.6 | 1.7 |
| 40 to 44 years | 95.7 | 94.7 | 93.2 | −1.0 | −2.6 | 1.5 | 1.6 |
| 45 to 49 years | 94.1 | 92.7 | 91.8 | −1.4 | −2.4 | .9 | 1.0 |
| 50 to 54 years | 89.9 | 89.3 | 87.8 | −.6 | −2.0 | 1.5 | 1.7 |
| 55 to 59 years | 81.6 | 78.7 | 78.6 | −2.9 | −3.0 | .1 | .1 |
| 60 to 64 years | 56.7 | 46.3 | 54.3 | −10.4 | −2.4 | −8.0 | −14.8 |
| 65 to 69 years | 24.8 | 16.8 | 27.4 | −8.0 | 2.7 | −10.6 | −38.7 |
| 70 years and older | 11.5 | 8.3 | 11.7 | −3.2 | .2 | −3.4 | −29.1 |
| Women | 53.3 | 58.4 | 59.0 | 5.1 | 5.7 | −.6 | −.9 |
| 16 and 17 years | 44.8 | 44.9 | 46.7 | .1 | 1.8 | −1.8 | −3.8 |
| 18 and 19 years | 65.2 | 64.8 | 64.5 | −.4 | −.6 | .3 | .4 |
| 20 to 24 years | 72.5 | 79.0 | 72.3 | 6.5 | −.1 | 6.7 | 9.3 |
| 25 to 29 years | 70.8 | 81.7 | 75.9 | 10.9 | 5.1 | 5.8 | 7.7 |
| 30 to 34 years | 68.8 | 81.4 | 75.7 | 12.6 | 6.9 | 5.7 | 7.6 |
| 35 to 39 years | 69.5 | 81.2 | 76.5 | 11.7 | 6.9 | 4.7 | 6.2 |
| 40 to 44 years | 69.7 | 79.3 | 78.8 | 9.6 | 9.1 | .5 | .6 |
| 45 to 49 years | 66.1 | 74.0 | 78.2 | 7.9 | 12.1 | −4.2 | −5.4 |
| 50 to 54 years | 59.3 | 66.7 | 71.5 | 7.4 | 12.2 | −4.8 | −6.7 |
| 55 to 59 years | 49.4 | 51.3 | 60.0 | 1.9 | 10.6 | −8.7 | −14.5 |
| 60 to 64 years | 32.9 | 32.2 | 38.2 | −.7 | 5.3 | −6.0 | −15.7 |
| 65 to 69 years | 14.1 | 12.1 | 18.1 | −2.0 | 4.0 | −6.0 | −33.1 |
| 70 years and older | 4.4 | 3.1 | 5.4 | −1.3 | 1.0 | −2.3 | −42.4 |
| Black and other | 62.8 | 65.9 | 64.3 | 3.1 | 1.5 | 1.6 | 2.5 |
| Men | 71.7 | 71.7 | 70.7 | .0 | −1.0 | 1.0 | 1.4 |
| 16 and 17 years | 26.9 | 27.7 | 29.9 | .8 | 3.0 | −2.2 | −7.4 |
| 18 and 19 years | 55.3 | 54.5 | 51.8 | −.8 | −3.5 | 2.7 | 5.2 |
| 20 to 24 years | 77.2 | 76.6 | 74.3 | −.6 | −2.8 | 2.3 | 3.1 |
| 25 to 29 years | 87.1 | 84.2 | 86.9 | −2.9 | −.1 | −2.7 | −3.1 |
| 30 to 34 years | 89.6 | 87.2 | 88.2 | −2.4 | −1.4 | −1.0 | −1.1 |
| 35 to 39 years | 90.8 | 89.5 | 85.0 | −1.3 | −5.8 | 4.5 | 5.3 |
| 40 to 44 years | 90.3 | 90.3 | 86.8 | .0 | −3.5 | 3.5 | 4.0 |
| 45 to 49 years | 87.3 | 87.3 | 82.5 | .0 | −4.8 | 4.8 | 5.8 |
| 50 to 54 years | 82.0 | 81.7 | 79.6 | −.3 | −2.4 | 2.1 | 2.6 |
| 55 to 59 years | 68.7 | 64.4 | 66.4 | −4.3 | −2.3 | −2.0 | −3.0 |
| 60 to 64 years | 50.0 | 44.8 | 47.9 | −5.2 | −2.1 | −3.1 | −6.4 |
| 65 to 69 years | 22.7 | 16.5 | 26.0 | −6.2 | 3.3 | −9.5 | −36.5 |
| 70 years and older | 15.0 | 6.0 | 9.2 | −8.9 | −5.8 | −3.2 | −34.7 |
| Women | 55.3 | 61.1 | 58.9 | 5.8 | 3.5 | 2.2 | 3.8 |
| 16 and 17 years | 24.6 | 27.0 | 30.1 | 2.4 | 5.5 | −3.1 | −10.4 |
| 18 and 19 years | 45.8 | 45.5 | 50.2 | −.3 | 4.4 | −4.7 | −9.4 |
| 20 to 24 years | 60.5 | 64.5 | 62.7 | 4.0 | 2.2 | 1.8 | 2.8 |
| 25 to 29 years | 68.4 | 76.5 | 70.7 | 8.1 | 2.3 | 5.8 | 8.2 |
| 30 to 34 years | 70.6 | 81.5 | 72.2 | 10.9 | 1.6 | 9.3 | 12.9 |
| 35 to 39 years | 74.0 | 81.9 | 74.7 | 7.9 | .7 | 7.2 | 9.7 |
| 40 to 44 years | 72.2 | 80.9 | 76.2 | 8.7 | 4.1 | 4.7 | 6.1 |
| 45 to 49 years | 67.3 | 78.0 | 73.5 | 10.7 | 6.2 | 4.5 | 6.1 |
| 50 to 54 years | 60.0 | 69.1 | 65.5 | 9.1 | 5.5 | 3.6 | 5.5 |
| 55 to 59 years | 53.0 | 54.7 | 59.1 | 1.7 | 6.1 | −4.4 | −7.4 |
| 60 to 64 years | 37.4 | 36.8 | 34.3 | −.6 | −3.1 | 2.5 | 7.2 |
| 65 to 69 years | 14.8 | 11.6 | 12.3 | −3.2 | −2.5 | −.7 | −5.3 |
| 70 years and older | 5.0 | 2.2 | 5.4 | −2.8 | .4 | −3.2 | −59.6 |

NOTE: Dash indicates data not available.

white women, the projections were too high for those aged 25 to 44 and too low for those 45 to 59. For black and other women, the projected rates for all the prime-age groups were too high, except those 55 to 59.

For youths 16 to 17, participation rates for all sex and racial groups were correctly projected to increase. For age groups 18 to 19 and 20 to 24, the projected direction of change was not the same for every sex and racial group, and the actual direction of change was not consistent for each age group. The patterns of labor force change for these groups are very difficult to discern and, consequently, difficult to project. Several large errors for young workers can be seen in table 2 for specific age, sex, and racial groups.

The projections of labor force participation rates for older workers generally had the largest percent errors, in part because the rates for these workers are relatively small, and small percentage-point errors result in a large percent error. It is also apparent that some of the observed error is due to the redesign of the Current Population Survey (CPS) in 1994, which resulted in a greater proportion of older persons being enumerated as labor force participants. Based on trends at the time the projections were developed, participation rates for all age groups over 60 years were projected to decline. In general, the direction of change for those 60 to 64 years of age was correctly projected in all sex and racial groups, except white women. Most of the other age, sex, and racial groups, however, showed increasing participation (see table 2), but some groups may have shown an increase only because of the CPS redesign.

## Population

The Bureau of the Census underprojected the civilian noninstitutional population by 4.8 million. (See table 3.) The percent error was large for both black and other men and black and other women. These two groups represented only 7.3 percent

**Table 3. Civilian noninstitutional population, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Labor force group | 1984 | 1995 | | Percent change, 1984–95 | | Numerical error (projected minus actual) | Percent error | Share of labor force, 1995 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Projected | Actual | Projected | Actual | | | Projected | Actual |
| Total | 176,383 | 193,817 | 198,584 | 9.9 | 12.6 | −4,767 | −2.7 | 100.0 | 100.0 |
| Men, 16 and older | 83,605 | 92,065 | 95,178 | 10.1 | 13.8 | −3,113 | −3.7 | 47.5 | 47.9 |
| Women, 16 and older | 92,778 | 101,752 | 103,406 | 9.7 | 11.5 | −1,654 | −1.8 | 52.5 | 52.1 |
| White | 152,347 | 164,860 | 166,914 | 8.2 | 9.6 | −2,054 | −1.3 | 85.1 | 84.1 |
| Men | 72,723 | 78,975 | 80,733 | 8.6 | 11.0 | −1,758 | −2.4 | 40.7 | 40.7 |
| 16 and 17 years | 3,019 | 2,787 | 2,995 | −7.7 | −.8 | −208 | −6.9 | 1.4 | 1.5 |
| 18 and 19 years | 3,094 | 2,519 | 2,859 | −18.6 | −7.6 | −340 | −11.0 | 1.3 | 1.4 |
| 20 to 24 years | 8,522 | 6,450 | 7,163 | −24.3 | −15.9 | −713 | −8.4 | 3.3 | 3.6 |
| 25 to 29 years | 8,775 | 7,454 | 7,721 | −15.1 | −12.0 | −267 | −3.0 | 3.8 | 3.9 |
| 30 to 34 years | 8,041 | 8,776 | 8,932 | 9.1 | 11.1 | −156 | −1.9 | 4.5 | 4.5 |
| 35 to 39 years | 7,103 | 9,061 | 9,167 | 27.6 | 29.1 | −106 | −1.5 | 4.7 | 4.6 |
| 40 to 44 years | 5,751 | 8,321 | 8,400 | 44.7 | 46.1 | −79 | −1.4 | 4.3 | 4.2 |
| 45 to 49 years | 4,800 | 7,465 | 7,345 | 55.5 | 53.0 | 120 | 2.5 | 3.9 | 3.7 |
| 50 to 54 years | 4,635 | 5,782 | 5,683 | 24.7 | 22.6 | 99 | 2.1 | 3.0 | 2.9 |
| 55 to 59 years | 4,756 | 4,581 | 4,565 | −3.7 | −4.0 | 16 | .3 | 2.4 | 2.3 |
| 60 to 64 years | 4,461 | 4,042 | 4,087 | −9.4 | −8.4 | −45 | −1.0 | 2.1 | 2.1 |
| 65 to 69 years | 3,635 | 3,853 | 3,919 | 6.0 | 7.8 | −66 | −1.8 | 2.0 | 2.0 |
| 70 years and older | 6,133 | 7,884 | 7,896 | 28.6 | 28.7 | −12 | −.2 | 4.1 | 4.0 |
| Women | 79,624 | 85,885 | 86,181 | 7.9 | 8.2 | −296 | −.4 | 44.3 | 43.4 |
| 16 and 17 years | 2,899 | 2,675 | 2,827 | −7.7 | −2.5 | −152 | −5.2 | 1.4 | 1.4 |
| 18 and 19 years | 3,135 | 2,574 | 2,787 | −17.9 | −11.1 | −213 | −6.8 | 1.3 | 1.4 |
| 20 to 24 years | 8,782 | 6,717 | 7,150 | −23.5 | −18.6 | −433 | −4.9 | 3.5 | 3.6 |
| 25 to 29 years | 8,897 | 7,511 | 7,761 | −15.6 | −12.8 | −250 | −2.8 | 3.9 | 3.9 |
| 30 to 34 years | 8,176 | 8,804 | 8,941 | 7.7 | 9.4 | −137 | −1.7 | 4.5 | 4.5 |
| 35 to 39 years | 7,335 | 9,161 | 9,186 | 24.9 | 25.2 | −25 | −.3 | 4.7 | 4.6 |
| 40 to 44 years | 5,936 | 8,422 | 8,468 | 41.9 | 42.7 | −46 | −.8 | 4.3 | 4.3 |
| 45 to 49 years | 4,998 | 7,630 | 7,489 | 52.7 | 49.8 | 141 | 2.8 | 3.9 | 3.8 |
| 50 to 54 years | 4,916 | 6,033 | 5,901 | 22.7 | 20.0 | 132 | 2.7 | 3.1 | 3.0 |
| 55 to 59 years | 5,248 | 4,923 | 4,845 | −6.2 | −7.7 | 78 | 1.5 | 2.5 | 2.4 |
| 60 to 64 years | 5,164 | 4,533 | 4,488 | −12.2 | −13.1 | 45 | .9 | 2.3 | 2.3 |
| 65 to 69 years | 4,475 | 4,653 | 4,631 | 4.0 | 3.5 | 22 | .5 | 2.4 | 2.3 |
| 70 years and older | 9,663 | 12,249 | 11,707 | 26.8 | 21.2 | 542 | 5.6 | 6.3 | 5.9 |
| Black and other | 24,035 | 28,957 | 31,670 | 20.5 | 31.8 | −2,713 | −11.3 | 14.9 | 15.9 |
| Men | 10,882 | 13,090 | 14,445 | 20.3 | 32.7 | −1,355 | −12.5 | 6.8 | 7.3 |
| 16 and 17 years | 636 | 618 | 799 | −2.8 | 25.7 | −181 | −28.5 | .3 | .4 |
| 18 and 19 years | 638 | 552 | 714 | −13.5 | 11.9 | −162 | −25.4 | .3 | .4 |
| 20 to 24 years | 1,586 | 1,328 | 1,672 | −16.3 | 5.4 | −344 | −21.7 | .7 | .8 |
| 25 to 29 years | 1,476 | 1,502 | 1,643 | 1.8 | 11.3 | −141 | −9.6 | .8 | .8 |
| 30 to 34 years | 1,304 | 1,741 | 1,783 | 33.5 | 36.7 | −42 | −3.2 | .9 | .9 |
| 35 to 39 years | 1,052 | 1,640 | 1,761 | 55.9 | 67.4 | −121 | −11.5 | .8 | .9 |
| 40 to 44 years | 813 | 1,383 | 1,472 | 70.1 | 81.0 | −89 | −10.9 | .7 | .7 |
| 45 to 49 years | 683 | 1,117 | 1,130 | 63.5 | 65.5 | −13 | −1.9 | .6 | .6 |
| 50 to 54 years | 606 | 812 | 953 | 34.0 | 57.2 | −141 | −23.3 | .4 | .5 |
| 55 to 59 years | 562 | 640 | 643 | 13.9 | 14.4 | −3 | −.5 | .3 | .3 |
| 60 to 64 years | 506 | 511 | 560 | 1.0 | 10.7 | −49 | −9.7 | .3 | .3 |
| 65 to 69 years | 365 | 431 | 476 | 18.1 | 30.5 | −45 | −12.4 | .2 | .2 |
| 70 years and older | 655 | 815 | 839 | 24.4 | 28.1 | −24 | −3.6 | .4 | .4 |
| Women | 13,153 | 15,867 | 17,225 | 20.6 | 31.0 | −1,358 | −10.3 | 8.2 | 8.7 |
| 16 and 17 years | 642 | 618 | 786 | −3.7 | 22.4 | −168 | −26.2 | .3 | .4 |
| 18 and 19 years | 672 | 596 | 744 | −11.3 | 10.7 | −148 | −22.0 | .3 | .4 |
| 20 to 24 years | 1,798 | 1,566 | 1,880 | −12.9 | 4.6 | −314 | −17.5 | .8 | .9 |
| 25 to 29 years | 1,751 | 1,704 | 1,937 | −2.7 | 10.6 | −233 | −13.3 | .9 | 1.0 |
| 30 to 34 years | 1,579 | 1,916 | 2,080 | 21.3 | 31.8 | −164 | −10.4 | 1.0 | 1.0 |
| 35 to 39 years | 1,259 | 1,847 | 2,069 | 46.7 | 64.3 | −222 | −17.6 | 1.0 | 1.0 |
| 40 to 44 years | 1,003 | 1,622 | 1,731 | 61.7 | 72.6 | −109 | −10.9 | .8 | .9 |
| 45 to 49 years | 829 | 1,339 | 1,356 | 61.5 | 63.6 | −17 | −2.1 | .7 | .7 |
| 50 to 54 years | 758 | 1,005 | 1,116 | 32.6 | 47.2 | −111 | −14.6 | .5 | .6 |
| 55 to 59 years | 721 | 821 | 820 | 13.9 | 13.8 | 1 | .1 | .4 | .4 |
| 60 to 64 years | 634 | 709 | 725 | 11.8 | 14.4 | −16 | −2.6 | .4 | .4 |
| 65 to 69 years | 501 | 646 | 667 | 28.9 | 33.2 | −21 | −4.3 | .3 | .3 |
| 70 years and older | 1,006 | 1,478 | 1,313 | 46.9 | 30.5 | 165 | 16.4 | .8 | .7 |

and 8.7 percent, respectively, of the population in 1995, but each accounted for more than 28 percent of the projection error. Their population was underprojected largely because of assumptions about undocumented immigrants. The Bureau of the Census has revised its methodology for projecting the population of undocumented immigrants since it issued projections for the 1984–95 labor force, and, as a result, the magnitude of the error for this difficult-to-project group has been significantly reduced.

The population projection error actually offset errors in labor force participation projections. If the projected 1995 labor force participation rates for each age, sex, and racial group were applied to the actual 1995 population, the result would have increased the labor force by 6.9 million, and the projection would have been 3.8 million too high. Although some of the age, sex, and racial group labor force participation rates were projected too low, and some of the population groups too high, the net effect was that labor force participation rate projections were too high and population projections too low, just about offsetting each other. □

## Footnote

[1] This section focuses on the 1995 projections as part of the Bureau's series of 1984–95 projections. In the previous series of projections, covering the 1982–95 period, the projected labor force of 131.4 million was more accurate, with the error being 900,000, or 0.7 percent. For a review of all six BLS labor force projections to 1995, see Howard N Fullerton, "Evaluating the 1995 BLS Labor Force Projections," *1997 Proceedings of the Section on Government Statistics* ((Alexandria, VA, American Statistical Association, forthcoming).

# Evaluating the 1995 industry employment projections

*The 1995 BLS projections of industry employment foretold the trend of almost all major industry groupings, as the economy hewed closely to the path projected for it*

Arthur Andreassen

BLS industry employment projections correctly described most broad industry trends over the 1984–95 period. Most of the major industry sectors projected to have faster-than-average growth did so, and 2 of the 3 major sectors projected to decline did lose employment from 1984 to 1995. Services and retail trade were projected to account for 65 percent of the net change in employment, which was very close to the actual 72 percent they attained. Downsizing, which has resulted in the contracting out of many operations, especially in manufacturing industries, is one of many factors that have led to a growth in services faster than that projected.

## Major industry sectors

Total wage and salary employment was underprojected by 6.6 million, reflecting chiefly the 3.1 million underprojection of the labor force, but also the unforeseen faster growth of wage and salary employment, compared with that of the labor force. The faster growth stemmed from an unexpected increase in dual jobholders over the projection period. Despite the large numerical underprojection of total employment, the projected 1995 distribution of employment by major industrial sector closely matched the actual distribution. Indeed, the shares of total employment for all but two sectors, agriculture and wholesale trade, were projected to change in the correct direction. Agriculture's share was projected to decline, but it maintained its small 1.7 percent of employment. This was because, although agricultural *production* declined as projected, a rapid growth in agricultural *services*, stemming largely from lawn care services, offset that decline. Wholesale trade's share was projected to increase from 5.7 percent to 5.9 percent, but it actually dropped to 5.3 percent. Wholesale trade was the only sector whose employment growth rate was incorrectly projected to be faster than total employment. The industry grew more slowly than projected because manufacturing, an intensive user of wholesale trade distribution services, grew more slowly than projected. (See table 1.)

Manufacturing's share of employment was correctly projected to decline; however, instead of dropping from 20 percent to 18.4 percent, it fell even lower, to 15.5 percent. These projections were prepared in 1984, just as the economy was emerging from the deeper of two recessions in the 1980s, and it was assumed that manufacturing would recover from its losses, as in the past, but not reach its 1979 peak. But this did not occur. The overprojection was concentrated in defense-related industries in durable goods manufacturing. Nondu-

**Table 1** Wage and salary employment, by major industry group, 1984 actual and 1995 projected and actual

[Numbers in thousands]

| Industry | 1984 | 1995 | | | | Percent change, 1984–95 | | Numerical error, 1995 | Percent error, 1995 | Share of total growth, 1984–95 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Projected | | Actual | | | | | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual | | | Projected | Actual |
| Total, all industries[1] | 96,843 | 112,267 | 100.0 | 118,833 | 100.0 | 15.9 | 22.7 | –6,566 | –5.5 | 100.0 | 100.0 |
| Agriculture, forestry, and fisheries | 1,668 | 1,401 | 1.2 | 1,976 | 1.7 | –16.0 | 18.4 | –575 | –29.1 | –1.7 | 1.4 |
| Mining | 620 | 601 | .5 | 418 | .4 | –3.1 | –32.6 | 183 | 43.8 | –.1 | –.9 |
| Construction | 4,726 | 5,225 | 4.7 | 5,407 | 4.5 | 10.6 | 14.4 | –182 | –3.4 | 3.2 | 3.1 |
| Manufacturing | 19,369 | 20,683 | 18.4 | 18,405 | 15.5 | 6.8 | –5.0 | 2,278 | 12.4 | 8.5 | –4.4 |
| Durables | 11,476 | 12,986 | 11.6 | 10,596 | 8.9 | 13.2 | –7.7 | 2,390 | 22.6 | 9.8 | –4.0 |
| Nondurables | 7,894 | 7,697 | 6.9 | 7,809 | 6.6 | –2.5 | –1.1 | –112 | –1.4 | –1.3 | –.4 |
| Transportation, communications, and utilities | 5,232 | 6,031 | 5.4 | 6,280 | 5.3 | 15.3 | 20.0 | –249 | –4.0 | 5.2 | 4.8 |
| Wholesale trade | 5,568 | 6,578 | 5.9 | 6,324 | 5.3 | 18.1 | 13.6 | 254 | 4.0 | 6.5 | 3.4 |
| Retail trade, including eating and drinking places | 16,512 | 19,549 | 17.4 | 20,840 | 17.5 | 18.4 | 26.2 | –1,291 | –6.2 | 19.7 | 19.7 |
| Finance, insurance, and real estate | 5,683 | 6,740 | 6.0 | 6,949 | 5.8 | 18.6 | 22.3 | –209 | –3.0 | 6.9 | 5.8 |
| Services | 21,517 | 28,468 | 25.4 | 33,042 | 27.8 | 32.3 | 53.6 | –4,574 | –13.8 | 45.1 | 52.4 |
| Business and professional services, except medical | 8,011 | 11,728 | 10.4 | 13,479 | 11.3 | 46.4 | 68.2 | –1,751 | –13.0 | 24.1 | 24.9 |
| Other services | 13,506 | 16,740 | 14.9 | 19,564 | 16.5 | 23.9 | 44.9 | –2,824 | –14.4 | 21.0 | 27.5 |
| Government | 15,947 | 16,991 | 15.1 | 19,192 | 16.2 | 6.5 | 20.4 | –2,201 | –11.5 | 6.8 | 14.8 |

[1] Employment data for wage and salary employment are from the BLS Current Employment Statistics (payroll) survey, which counts jobs. Agriculture and private household data are from the Current Population Survey (household survey), which counts workers.

rable-goods-manufacturing industries were correctly projected to decline, not only as a share of total employment, but also in absolute levels. Employment in mining was correctly projected to decline as well, but the actual decline was much steeper than the projection. Employment in construction in 1995 was very close to the projected level, but construction's share of employment was overprojected.

Employment in services was correctly projected to increase faster than employment in all other sectors, although the actual rate was underprojected. Services accounted for 70 percent of the underprojection in total employment. Government employment was correctly projected to decline as a share of total employment, but the decline was much less than projected. The finance, insurance, and real estate sector and the transportation, communications, and utilities sector had relatively small projection errors.

## Gross domestic product

Changes made since 1984 to the definition of real demand and to how it is calculated make it difficult to compare the dollar values of actual and projected gross domestic product (GDP). The evaluation that follows, therefore, is largely based on relative values and actual and projected annual average percent change. Total GDP was projected to grow at an annual average of 2.8 percent, but actual growth was much slower, 2.5 percent. Higher-than-projected employment levels were offset by a slower-than-projected growth in output per worker hour. (See table 2.)

Personal consumption expenditure is the largest and most stable of the major demand components of GDP. The projected annual growth rate of 2.9 percent for total personal consumption expenditure was very close to the actual rate, 2.7 percent. Here, an underprojection for durable goods consumption was offset by an overprojection for services consumption. The growth rate of gross domestic investment, the most variable of the major demand components of GDP, was overprojected. By contrast, the projection of producer's durable equipment was too low, as purchases of computer and communications equipment by businesses were much greater than projected. However, this was offset by the projection of nonresidential structures and residential structures, which was much too high. The growth of construction was spurred by the tax-encouraged building in the middle 1980s, but slowed significantly in later years because of legislation that affected the tax benefits of this investment.

Foreign trade, in both its import and export components, was projected to grow faster than the other major components of GDP, but it grew even faster than projected. The trade-weighted value of the dollar reached a post-World War II low in 1995, which helped ex-

port growth. Import growth from 1984 to 1995 reflected the generally healthy domestic economy during most of the period, as well as the unexpected low price of oil. Some of the components of government demand were significantly overprojected and others significantly underprojected. Changes in the international political situation resulted in a reversal of the defense buildup that started in the late 1970s. Consequently, national defense expenditures, which were projected to increase significantly, actually declined. In contrast, Federal nondefense expenditures rose faster than projected, as projected cutbacks did not occur. State and local government purchases were higher than projected, spurred by increases in spending for health and education.

## Detailed industries

The BLS evaluation covers wage and salary workers in 117 industries or industry groups that sum to total employment.[1] Average errors have little analytical value, because some industry sectors, such as manufacturing, have large numbers of detailed industries, while other sectors, such as construction and wholesale trade, have no industry detail, and retail trade is divided into only two detailed industries. The projected direction of change was correct for 72 (62 percent) of the industries; 28 that were projected to increase and 44 to decline did so. Projected declines in 12 industries and increases in 33 were in the wrong direction.

Manufacturing industries are overrepresented in the evaluation, accounting for 75 industries, 64 percent of the total number evaluated, although they made up only 15 percent of employment in 1995. Durable goods account for 44 manufacturing industries, of which 30 declined over the 1994–95 period, only 10 of which were projected to do so. Among the most significant errors in the projections for manufacturing industries were those related to the overprojection of defense expenditures, including ordnance (119 percent), aerospace (60 percent), shipbuilding (35 percent), and communications and scientific equipment (58 percent). An unforeseen surge in imports of computers resulted in an overprojection of 123 percent in the computer and office equipment industry. In contrast, nine durable-goods-manufacturing industries were underprojected. Of these, the largest projection error was for motor vehicles and equipment. An increase in U.S. operations and a rise in production by foreign motor vehicle manufacturers resulted in U.S. jobs gains, rather than losses due to production in foreign countries. (See table 3.)

In the 31 nondurable goods industries, the projection errors were generally smaller than in durable goods industries. The food-manufacturing industries were all projected to decline, except for the miscellaneous group, and all did, save the miscellaneous group and meat products. However, the declines were generally less than projected. Drug manufacturing grew a little faster than projected, spurred by purchases from health service and government health industries.

Employment in 9 of the 12 detailed service industries that were evaluated increased faster than projected. One of the three that increased less than projected, private households, was projected to decline and did so, but the decline was even greater than projected. Beauty and barber shops and personal and repair services registered an increase in employment, but not as fast as was projected. Two of the service industries with the largest numerical projection errors—miscellaneous business, professional, and social services and doctors' offices, nursing homes, and miscellaneous health services—were projected to grow much faster than average, but they grew even faster than projected. The former industry was driven in part by very rapid, unprecedented growth in the early 1980s, when projections were

**Table 2. Growth in demand components between 1984 and 1995, actual and projected**

[Annual percent change]

| Components of demand | Gross domestic product, 1984 to actual 1995 (1992 dollars) | Gross national product,[1] 1984 to projected 1995 (1992 dollars)[2] |
|---|---|---|
| Total | 2.5 | 2.9 |
| Personal consumption expenditures | 2.7 | 2.8 |
| Durable goods | 3.7 | 2.8 |
| Nondurable goods | 1.9 | 1.9 |
| Services | 2.9 | 3.4 |
| Gross private domestic investment | 1.8 | 2.8 |
| Producers' durable equipment | 4.7 | 3.8 |
| Nonresidential structures | –1.2 | 2.0 |
| Residential structures | 1.4 | 2.1 |
| Change in business inventories | –4.0 | .3 |
| Net exports | | |
| Exports | 8.1 | 5.6 |
| Imports | –6.3 | –4.0 |
| Government | 2.0 | 2.5 |
| Federal Government | .2 | 2.8 |
| National defense | –.7 | 3.4 |
| Nondefense | 2.5 | 1.1 |
| State and local government | 3.3 | 2.3 |

[1] Actual 1995 demand data are available on a gross domestic product basis, rather than the projected gross national product basis.

[2] Actual 1995 demand data are available in 1992 chain-weighted dollars, rather than the projected 1972 fixed-weight dollars.

**Table 3. Wage and salary employment, by industry, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Industry | 1984 | 1995 | | | | Percent change, 1984–95 | | Numerical error, 1995 | Percent error, 1995 | Share of total growth, 1984–95 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Projected | | Actual | | | | | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual | | | Projected | Actual |
| Total | 96,843 | 112,267 | 100.0 | 118,833 | 100.0 | 15.9 | 22.7 | –6,566 | –5.5 | 100.0 | 100.0 |
| Agricultural production | 1,126 | 1,021 | .9 | 1,064 | .9 | –9.3 | –5.5 | –43 | –4.0 | –.7 | –.3 |
| Agricultural services | 501 | 330 | .3 | 872 | .7 | –34.2 | 73.9 | –542 | –62.2 | –1.1 | 1.7 |
| Forestry, fishing, hunting, and trapping | 41 | 50 | .0 | 40 | .0 | 22.0 | –2.4 | 10 | 25.0 | .1 | .0 |
| Metal mining | 55 | 44 | .0 | 51 | .0 | –20.3 | –7.2 | –7 | –14.1 | –.1 | .0 |
| Coal mining | 196 | 185 | .2 | 107 | .1 | –5.4 | –45.4 | 78 | 73.2 | –.1 | –.4 |
| Crude petroleum, natural gas, and gas liquids | 261 | 263 | .2 | 155 | .1 | .8 | –40.5 | 108 | 69.5 | .0 | –.5 |
| Nonmetallic minerals, except fuels | 109 | 109 | .1 | 105 | .1 | .5 | –3.5 | 4 | 4.1 | .0 | .0 |
| Construction, including oil and gas services | 4,726 | 5,225 | 4.7 | 5,407 | 4.5 | 10.6 | 14.4 | –182 | –3.4 | 3.2 | 3.1 |
| Logging | 88 | 78 | .1 | 82 | .1 | –10.9 | –6.7 | –4 | –4.4 | –.1 | .0 |
| Sawmills and planing mills | 202 | 190 | .2 | 186 | .2 | –6.1 | –8.2 | 4 | 2.3 | –.1 | –.1 |
| Wood products and mobile homes | 428 | 435 | .4 | 490 | .4 | 1.7 | 14.5 | –55 | –11.2 | .0 | .3 |
| Household furniture | 296 | 321 | .3 | 279 | .2 | 8.6 | –5.6 | 42 | 15.1 | .2 | –.1 |
| Miscellaneous furniture and fixtures | 191 | 242 | .2 | 221 | .2 | 27.0 | 15.8 | 21 | 9.6 | .3 | .1 |
| Glass and glass products | 163 | 167 | .1 | 152 | .1 | 2.5 | –6.7 | 15 | 9.8 | .0 | .0 |
| Cement and concrete | 223 | 242 | .2 | 222 | .2 | 8.7 | –.4 | 20 | 9.1 | .1 | .0 |
| Stone, clay, and miscellaneous mineral products | 176 | 212 | .2 | 167 | .1 | 20.5 | –4.8 | 45 | 26.6 | .2 | .0 |
| Blast furnaces and basic steel products | 334 | 261 | .2 | 239 | .2 | –21.9 | –28.4 | 22 | 9.1 | –.5 | –.4 |
| Foundries, forging, and refining | 770 | 785 | .7 | 721 | .6 | 1.9 | –6.4 | 64 | 8.9 | .1 | –.2 |
| Metal cans and shipping containers | 59 | 52 | .0 | 41 | .0 | –11.3 | –29.7 | 11 | 26.2 | .0 | –.1 |
| Cutlery, handtools, and hardware | 148 | 162 | .1 | 131 | .1 | 9.7 | –11.0 | 31 | 23.3 | .1 | –.1 |
| Plumbing and nonelectric heating equipment | 65 | 60 | .1 | 60 | .1 | –8.0 | –7.7 | 0 | –.3 | .0 | .0 |
| Fabricated structural metal products | 430 | 514 | .5 | 428 | .4 | 19.6 | –.4 | 86 | 20.1 | .5 | .0 |
| Screw machine products, bolts, rivets, etc. | 96 | 108 | .1 | 99 | .1 | 12.1 | 2.6 | 9 | 9.3 | .1 | .0 |
| Ordnance and ammunition | 76 | 111 | .1 | 51 | .0 | 46.8 | –32.8 | 60 | 118.5 | .2 | –.1 |
| Miscellaneous fabricated metal products | 342 | 394 | .4 | 379 | .3 | 15.4 | 10.8 | 16 | 4.1 | .3 | .2 |
| Engines and turbines | 113 | 124 | .1 | 87 | .1 | 9.7 | –22.8 | 37 | 42.2 | .1 | –.1 |
| Farm and garden machinery | 108 | 136 | .1 | 104 | .1 | 26.4 | –3.4 | 32 | 30.9 | .2 | .0 |
| Construction and related machinery | 257 | 334 | .3 | 217 | .2 | 29.8 | –15.8 | 117 | 54.1 | .5 | –.2 |
| Metalworking machinery and equipment | 327 | 367 | .3 | 340 | .3 | 12.3 | 3.9 | 27 | 8.0 | .3 | .1 |
| Special industry machinery | 158 | 197 | .2 | 167 | .1 | 24.6 | 5.6 | 30 | 18.0 | .3 | .0 |
| General industrial machinery and equipment | 252 | 325 | .3 | 253 | .2 | 29.0 | .4 | 72 | 28.5 | .5 | .0 |
| Computer and office equipment | 515 | 756 | .7 | 340 | .3 | 46.9 | –34.0 | 416 | 122.5 | 1.6 | –.8 |
| Refrigeration and service industry machinery | 171 | 194 | .2 | 200 | .2 | 13.3 | 16.7 | –6 | –2.9 | .1 | .1 |
| Industrial machinery, n.e.c.[1] | 317 | 322 | .3 | 336 | .3 | 1.6 | 5.9 | –14 | –4.1 | .0 | .1 |
| Electric distribution equipment | 111 | 231 | .2 | 81 | .1 | 108.3 | –26.9 | 150 | 184.8 | .8 | –.1 |
| Electrical industrial apparatus | 201 | 241 | .2 | 160 | .1 | 19.7 | –20.4 | 81 | 50.3 | .3 | –.2 |
| Household appliances | 146 | 150 | .1 | 123 | .1 | 2.6 | –16.0 | 27 | 22.1 | .0 | –.1 |
| Electric lighting and wiring equipment | 202 | 223 | .2 | 182 | .2 | 10.5 | –9.7 | 41 | 22.4 | .1 | –.1 |
| Household audio and video equipment | 90 | 85 | .1 | 93 | .1 | –5.6 | 3.1 | –8 | –8.4 | .0 | .0 |
| Communication and scientific equipment | 986 | 1,164 | 1.0 | 737 | .6 | 18.1 | –25.3 | 427 | 58.0 | 1.2 | –1.1 |
| Electronic components and accessories | 657 | 846 | .8 | 582 | .5 | 28.7 | –11.5 | 265 | 45.5 | 1.2 | –.3 |

**Table 3. Continued—Wage and salary employment, by industry, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Industry | 1984 | 1995 | | | | Percent change, 1984–95 | | Numerical error, 1995 | Percent error, 1995 | Share of total growth, 1984–95 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Projected | | Actual | | | | | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual | | | Projected | Actual |
| Miscellaneous electrical equipment | 170 | 186 | .2 | 154 | .1 | 9.7 | –9.1 | 32 | 20.7 | .1 | –.1 |
| Motor vehicles and equipment | 862 | 826 | .7 | 933 | .8 | –4.1 | 8.3 | –107 | –11.5 | –.2 | .3 |
| Aerospace | 729 | 866 | .8 | 541 | .5 | 18.8 | –25.8 | 325 | 60.0 | .9 | –.9 |
| Ship and boat building and repairing | 192 | 220 | .2 | 163 | .1 | 14.7 | –15.3 | 58 | 35.4 | .2 | –.1 |
| Railroad equipment | 35 | 36 | .0 | 38 | .0 | 2.9 | 8.6 | –2 | –5.3 | .0 | .0 |
| Miscellaneous transportation equipment | 65 | 59 | .1 | 70 | .1 | –9.8 | 6.7 | –11 | –15.5 | .0 | .0 |
| Medical equipment, instruments, and supplies | 208 | 234 | .2 | 262 | .2 | 12.4 | 25.7 | –28 | –10.6 | .2 | .2 |
| Photographic equipment and supplies | 124 | 135 | .1 | 87 | .1 | 9.0 | –30.1 | 49 | 56.1 | .1 | –.2 |
| Watches, clocks, and parts | 14 | 14 | .0 | 8 | .0 | –.7 | –43.3 | 6 | 75.0 | .0 | .0 |
| Jewelry, silverware, and plated ware | 55 | 78 | .1 | 51 | .0 | 42.6 | –7.3 | 27 | 53.8 | .2 | .0 |
| Manufactured products, n.e.c.[1] | 327 | 303 | .3 | 343 | .3 | –7.3 | 4.9 | –40 | –11.6 | –.2 | .1 |
| Meat products | 355 | 328 | .3 | 465 | .4 | –7.7 | 30.8 | –137 | –29.4 | –.2 | .5 |
| Dairy products | 163 | 126 | .1 | 150 | .1 | –22.8 | –8.2 | –24 | –15.9 | –.2 | –.1 |
| Grain mill products, fats, and oils | 166 | 124 | .1 | 159 | .1 | –25.2 | –3.9 | –35 | –22.2 | –.3 | .0 |
| Bakery products | 218 | 181 | .2 | 212 | .2 | –16.9 | –2.8 | –31 | –14.6 | –.2 | .0 |
| Sugar and confectionery products | 102 | 85 | .1 | 99 | .1 | –16.5 | –2.5 | –14 | –14.4 | –.1 | .0 |
| Beverages | 214 | 191 | .2 | 179 | .2 | –10.9 | –16.6 | 12 | 6.8 | –.2 | –.2 |
| Miscellaneous foods and kindred products | 390 | 415 | .4 | 421 | .4 | 6.3 | 7.9 | –6 | –1.5 | .2 | .1 |
| Tobacco products | 64 | 56 | .0 | 39 | .0 | –12.8 | –38.6 | 17 | 42.1 | –.1 | –.1 |
| Weaving, finishing, yarn, and thread mills | 432 | 354 | .3 | 350 | .3 | –18.1 | –19.0 | 4 | 1.2 | –.5 | –.4 |
| Knitting mills | 208 | 168 | .1 | 191 | .2 | –19.0 | –7.8 | –23 | –12.2 | –.3 | –.1 |
| Carpets and rugs | 53 | 43 | .0 | 65 | .1 | –19.5 | 20.8 | –22 | –33.3 | –.1 | .1 |
| Miscellaneous textile goods | 53 | 46 | .0 | 51 | .0 | –13.9 | –5.2 | –5 | –9.1 | .0 | .0 |
| Apparel | 1,000 | 808 | .7 | 705 | .6 | –19.2 | –29.5 | 103 | 14.6 | –1.2 | –1.3 |
| Miscellaneous fabricated textile products | 185 | 174 | .2 | 211 | .2 | –5.9 | 14.3 | –37 | –17.7 | –.1 | .1 |
| Paperboard containers and boxes | 197 | 183 | .2 | 215 | .2 | –7.2 | 9.0 | –32 | –14.8 | –.1 | .1 |
| Pulp, paper, and paperboard | 477 | 480 | .4 | 473 | .4 | .7 | –.8 | 7 | 1.5 | .0 | .0 |
| Newspapers | 440 | 508 | .5 | 453 | .4 | 15.5 | 3.0 | 55 | 12.2 | .4 | .1 |
| Periodicals, except newspapers | 277 | 313 | .3 | 341 | .3 | 13.2 | 23.5 | –28 | –8.3 | .2 | .3 |
| Printing | 659 | 785 | .7 | 762 | .6 | 19.1 | 15.6 | 23 | 3.1 | .8 | .5 |
| Industrial chemicals | 305 | 305 | .3 | 272 | .2 | –.1 | –11.0 | 33 | 12.3 | .0 | –.2 |
| Plastics materials and synthetics | 178 | 162 | .1 | 158 | .1 | –8.9 | –11.3 | 4 | 2.7 | –.1 | –.1 |
| Drugs | 206 | 243 | .2 | 260 | .2 | 18.1 | 26.1 | –17 | –6.4 | .2 | .2 |
| Soap, cleaners, and toilet goods | 145 | 160 | .1 | 152 | .1 | 10.0 | 4.5 | 8 | 5.3 | .1 | .0 |
| Paints and allied products | 62 | 57 | .1 | 58 | .0 | –8.1 | –6.3 | –1 | –1.9 | .0 | .0 |
| Agricultural chemicals | 61 | 61 | .1 | 53 | .0 | .7 | –12.2 | 8 | 14.7 | .0 | .0 |
| Miscellaneous chemical products | 92 | 101 | .1 | 93 | .1 | 9.4 | .9 | 8 | 8.5 | .1 | .0 |
| Petroleum and coal product manufacturing | 189 | 175 | .2 | 144 | .1 | –7.4 | –24.0 | 31 | 21.8 | –.1 | –.2 |
| Tires and inner tubes | 95 | 86 | .1 | 83 | .1 | –9.7 | –13.1 | 3 | 4.0 | –.1 | –.1 |
| Rubber products, plastic hose, and footwear | 184 | 132 | .1 | 184 | .2 | –28.2 | .2 | –52 | –28.4 | –.3 | .0 |
| Miscellaneous plastics products, n.e.c.[1] | 534 | 707 | .6 | 705 | .6 | 32.4 | 31.9 | 2 | .3 | 1.1 | .8 |
| Footwear and other leather products | 190 | 140 | .1 | 108 | .1 | –26.1 | –43.0 | 32 | 29.5 | –.3 | –.4 |
| Railroad transportation | 376 | 283 | .3 | 239 | .2 | –24.7 | –36.5 | 45 | 18.7 | –.6 | –.6 |
| Local and interurban passenger transit | 270 | 267 | .2 | 448 | .4 | –1.2 | 65.6 | –181 | –40.3 | .0 | .8 |

**Table 3. Continued—Wage and salary employment, by industry, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Industry | 1984 | 1995 | | | | Percent change, 1984–95 | | Numerical error, 1995 | Percent error, 1995 | Share of total growth, 1984–95 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Projected | | Actual | | | | | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual | | | Projected | Actual |
| Trucking and warehousing | 1,317 | 1,571 | 1.4 | 1,879 | 1.6 | 19.3 | 42.6 | −308 | −16.4 | 1.6 | 2.6 |
| Water transportation | 190 | 206 | .2 | 160 | .1 | 8.4 | −16.1 | 47 | 29.2 | .1 | −.1 |
| Air transportation | 488 | 574 | .5 | 766 | .6 | 17.6 | 56.8 | −192 | −25.0 | .6 | 1.3 |
| Pipelines, except natural gas | 19 | 20 | .0 | 17 | .0 | 4.7 | −13.6 | 4 | 21.2 | .0 | .0 |
| Miscellaneous transportation services | 253 | 362 | .3 | 424 | .4 | 43.1 | 67.4 | −62 | −14.5 | .7 | .8 |
| Communications | 1,340 | 1,575 | 1.4 | 1,358 | 1.1 | 17.5 | 1.3 | 217 | 16.0 | 1.5 | .1 |
| Electric utilities | 645 | 827 | .7 | 585 | .5 | 28.3 | −9.3 | 242 | 41.5 | 1.2 | −.3 |
| Gas utilities | 223 | 225 | .2 | 189 | .2 | .8 | −15.4 | 36 | 19.0 | .0 | −.2 |
| Water and sanitation | 110 | 121 | .1 | 218 | .2 | 10.0 | 98.5 | −97 | −44.6 | .1 | .5 |
| Wholesale trade | 5,568 | 6,578 | 5.9 | 6,324 | 5.3 | 18.1 | 13.6 | 254 | 4.0 | 6.5 | 3.4 |
| Retail trade, except eating and drinking places | 11,131 | 12,890 | 11.5 | 13,617 | 11.5 | 15.8 | 22.3 | −727 | −5.3 | 11.4 | 11.3 |
| Eating and drinking places | 5,381 | 6,659 | 5.9 | 7,223 | 6.1 | 23.8 | 34.2 | −564 | −7.8 | 8.3 | 8.4 |
| Banking and brokerages | 2,852 | 3,396 | 3.0 | 3,316 | 2.8 | 19.1 | 16.3 | 80 | 2.4 | 3.5 | 2.1 |
| Insurance | 1,765 | 2,056 | 1.8 | 2,243 | 1.9 | 16.5 | 27.1 | −187 | −8.3 | 1.9 | 2.2 |
| Real estate and royalties | 1,067 | 1,288 | 1.1 | 1,390 | 1.2 | 20.7 | 30.3 | −102 | −7.3 | 1.4 | 1.5 |
| Lodging places and residential care | 1,532 | 1,955 | 1.7 | 2,259 | 1.9 | 27.6 | 47.5 | −304 | −13.5 | 2.7 | 3.3 |
| Beauty and barber shops | 341 | 430 | .4 | 395 | .3 | 26.3 | 16.0 | 35 | 8.8 | .6 | .2 |
| Personal and repair services, n.e.c.[1] | 706 | 1,160 | 1.0 | 881 | .7 | 64.4 | 24.8 | 280 | 31.7 | 2.9 | .8 |
| Advertising | 183 | 227 | .2 | 241 | .2 | 24.0 | 31.3 | −14 | −5.6 | .3 | .3 |
| Miscellaneous business, professional, and social services | 7,828 | 11,501 | 10.2 | 13,238 | 11.1 | 46.9 | 69.1 | −1,737 | −13.1 | 23.8 | 24.6 |
| Automotive services | 682 | 864 | .8 | 1,025 | .9 | 26.6 | 50.3 | −161 | −15.7 | 1.2 | 1.6 |
| Motion pictures and videotape rental | 276 | 243 | .2 | 586 | .5 | −11.9 | 112.6 | −343 | −58.5 | −.2 | 1.4 |
| Amusement and recreation services, n.e.c.[1] | 859 | 1,056 | .9 | 1,474 | 1.2 | 23.0 | 71.7 | −418 | −28.4 | 1.3 | 2.8 |
| Doctors, nursing homes, and miscellaneous health services | 3,115 | 4,796 | 4.3 | 5,454 | .6 | 54.0 | 75.1 | −658 | −12.1 | 10.9 | 10.6 |
| Hospitals | 3,004 | 3,253 | 2.9 | 3,816 | 3.2 | 8.3 | 27.0 | −563 | −14.7 | 1.6 | 3.7 |
| Educational, job training, child care, etc. | 1,755 | 1,964 | 1.7 | 2,712 | 2.3 | 11.9 | 54.5 | −748 | −27.6 | 1.4 | 4.3 |
| Private households | 1,238 | 1,019 | .9 | 963 | .8 | −17.7 | −22.2 | 56 | 5.8 | −1.4 | −1.3 |
| U.S. Postal Service | 703 | 677 | .6 | 843 | .7 | −3.7 | 20.0 | −166 | −19.7 | −.2 | .6 |
| Federal Government enterprises, n.e.c.[1] | 197 | 140 | .1 | 194 | .2 | −29.0 | −1.8 | −54 | −27.6 | −.4 | .0 |
| General government | 14,325 | 15,429 | 13.7 | 17,389 | 14.6 | 7.7 | 21.4 | −1,960 | −11.3 | 7.2 | 13.9 |
| Local government passenger transit | 186 | 209 | .2 | 212 | .2 | 12.4 | 14.2 | −3 | −1.6 | .1 | .1 |
| State and local government enterprises, n.e.c.[1] | 536 | 536 | .5 | 554 | .5 | .0 | 3.3 | −18 | −3.2 | .0 | .1 |

[1] n.e.c. = not elsewhere classified.

developed for the temporary help services supply industry. Growth in that industry reflects much of the cost cutting that employers have been implementing over the past several years, as firms replace permanent employees with temporary ones to save on the cost of benefits, yet maintain flexibility in their production operations.

Employment in railroads, air transportation, trucking and warehousing, and local and interurban transit grew faster than projected. The most significant underprojection was for the last of these, as the growth of subway systems took hold during the projection period. Employment in the transportation industries grew faster than projected, as companies converted to "just in time" inventory management more rapidly than was expected. Electric and gas utilities were both projected to increase, but they decreased, as deregulation apparently had a significant impact on employment. □

## Footnotes

[1] Originally, projections were made for 156 industries. Because of changes in the Standard Industrial Classification (SIC) system, however, com-

parability with actual 1995 industries could be accomplished only at a 117-industry level. Data were analyzed just for wage and salary workers, both because of the change in the SIC system and because it would be difficult to establish comparability between the data for these workers, derived from the Current Employment Statistics program, and data on self-employed and unpaid family workers, derived from the Current Population Survey.

# Evaluating the 1995 occupational employment projections

*Although too conservative, the BLS employment projections to 1995 correctly foresaw most general occupational trends*

Carolyn M. Veneri

The Bureau's occupational employment projections captured the majority of the general occupational trends over the 1984–95 period. Some of the most glaring inaccuracies in the projections for detailed occupations reflect the conservative nature of projected growth rates that was identified in previous evaluations. Although the impact of inaccurate industry employment projections on the occupational employment projections was significant, the projections of the changes in the utilization of occupations by industry resulted in the biggest source of projection error, as in past evaluations.

## Major occupation groups

The direction of employment change was projected correctly for all nine of the major occupation groups. The absolute projection error was less than 10 percent for eight out of the nine groups and 11.3 percent for professional specialty occupations, the major occupation group with the largest absolute error. (See table 1.)

Projected employment was lower than actual in six major groups: executive, administrative, and managerial occupations; professional specialty occupations; marketing and sales occupations; administrative support occupations, including clerical; services occupations; and operators, fabricators, and laborers. Employment was overestimated for precision production, craft, and repair occupations, and technicians and related support occupations. The latter group's employment was projected the most accurately, at less than 1 percent more than actual employment. The decline in employment was slightly overestimated for agriculture, forestry, fishing, and related occupations.

Not only was the direction of employment change anticipated correctly for all the major groups, but the projected distribution of employment growth among the groups was reasonably accurate.[1] For example, the professional specialty occupation group had the largest absolute numerical error, nearly 2 million, but its share of total employment growth was underprojected by only 3.4 percent. Thus, the projection for total employment—low by about 7.3 million—had an impact on the overall accuracy of the projections.

The largest error in the projected share of employment growth was for precision production, craft, and repair occupations. This group's share of total employment growth was overprojected by about 7 percent, in line with its employment being overprojected by 886,000. For each major group, however, the same pattern of projection of employment growth and rprojection of the group's share of employment growth does not necessarily apply. In the case of operators, fabricators, and laborers, for example, employment was slightly underprojected, and the share of employment growth was overprojected. For marketing and sales workers, the projected share of total employment growth was almost identical to the actual share, although the level of employment was underprojected. (See table 1.)

The fastest growing occupation groups had the largest absolute projection errors. Technicians and related support occupations was projected to be the fastest growing group, but was outpaced by four other groups. The two actual leaders, professional specialty occupations and executive, administrative, and managerial occupations, which were both projected to grow faster than average, but not as fast as they really did grow.

Administrative support workers, including clerical workers, made up the largest group of workers in 1984 and also was projected to be, and was in actuality, the largest in 1995, even though it did not grow more slowly than average, as projected. The projection error for this group was 8.3 percent. The group's projected slow growth was based on the anticipated effect of the rapid spread of computerized office equipment. As a result, many clerical occupations were correctly projected to grow slowly or decline. However,

employment increased more rapidly than projected in several large clerical occupations, such as bill and account collectors, adjustment clerks, and teachers' aides and educational assistants.

Projection errors were also relatively large for both service occupations and marketing and sales occupations. Each of these groups grew faster than projected, and together they accounted for a combined employment growth of about 8.1 million jobs, rather than the expected 5.6 million. More than 60 percent of the projection error of 1.1 million for the marketing and sales occupations can be attributed to an underprojection of two occupations: cashiers and retail salespersons. These occupations accounted for an underestimate of almost 700,000 workers.

Projection errors for agriculture, forestry, fishing, and related occupations, and for operators, fabricators, and laborers, were relatively small. Part of this accuracy can be attributed to growth among occupations less affected by technological change, such as transportation and material-moving occupations; nursery workers; and animal caretakers, except farmworkers. Conversely, precision production, craft, and repair occupations were overprojected by almost a million workers. Because these workers are concentrated in the construction and manufacturing industries, the projected increase in their employment was tied primarily to the projections for those industries.

Professional specialty occupations grew by about 4.7 million over the 1984–95 period, almost 2 million more than projected. Significant errors in the projections for detailed occupations with sizable employment had a substantial impact on the overall projection error for this group. For example, underprojections for five professional specialty occupations—computer systems analysts, engineers, and scientists; college and university faculty; adult and vocational education teachers; registered nurses; and social workers—contributed significantly to the underprojection of professional workers. Underprojection of the five occupations accounted for about 38 percent of underestimated employment for this major group. That the projection error for professional specialty occupations was only 11.3 percent can be attributed to some offsetting of this underprojection caused by an overprojection of other types of engineers.[2]

## Detailed occupations

The evaluation of the 1995 projections covered 348 detailed occupations. Table 2 presents data on the 207 occupations for which 1984 employment was greater than 50,000, ranked by absolute percent error.[3] The absolute percent errors for all 348 averaged about 24 percent. More than three-fifths of the occupations, however, had below-average errors.

The Bureau can evaluate only the projections for occupations that had comparable definitions in surveys used to compile employment data in the base year and the target year of the projections. Consequently, in past evaluations, relatively few occupations could be evaluated, because the classification system changed rather frequently. However, many more occupations maintained comparability between 1984 and 1995 than in past evaluation periods, because the OES survey occupational classification remained very stable over that period. As a result, the number of occupations included in this evaluation is much larger than in past evaluations.[4]

**Table 1** Employment, by major occupation group, 1984 actual and 1995 projected and actual

[Numbers in thousands]

| Occupation | 1984 | Employment | | | | Percent change, 1984–95 | | Numerical error, 1995 (projected minus actual) | Percent error, 1995 | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Projected 1995 | | Actual 1995 | | | | | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual | | | Projected | Actual |
| Total, all occupations | 106,729 | 122,758 | 100.0 | 130,009 | 100.0 | 15.0 | 21.8 | −7,250 | −5.6 | 100.0 | 100.0 |
| Executive, administrative, and managerial occupations | 9,951 | 11,933 | 9.7 | 13,244 | 10.2 | 19.9 | 33.1 | −1,311 | −9.9 | 12.4 | 14.1 |
| Professional specialty occupations | 13,020 | 15,701 | 12.8 | 17,696 | 13.6 | 20.6 | 35.9 | −1,995 | −11.3 | 16.7 | 20.1 |
| Technicians and related support occupations | 3,535 | 4,564 | 3.7 | 4,541 | 3.5 | 29.1 | 28.5 | 23 | .5 | 6.4 | 4.3 |
| Marketing and sales workers | 10,978 | 13,322 | 10.9 | 14,389 | 11.1 | 21.3 | 31.1 | −1,068 | −7.4 | 14.6 | 14.7 |
| Administrative support occupations, including clerical | 19,670 | 21,731 | 17.7 | 23,710 | 18.2 | 10.5 | 20.5 | −1,979 | −8.3 | 12.9 | 17.4 |
| Service occupations | 16,244 | 19,510 | 15.9 | 20,889 | 16.1 | 20.1 | 28.6 | −1,379 | −6.6 | 20.4 | 20.0 |
| Agriculture, forestry, fishing, and related occupations | 3,798 | 3,641 | 3.0 | 3,779 | 2.9 | −4.1 | −.5 | −138 | −3.6 | −1.0 | −.1 |
| Precision production, craft, and repair occupations | 13,469 | 15,110 | 12.3 | 14,224 | 10.9 | 12.2 | 5.6 | 886 | 6.2 | 10.2 | 3.2 |
| Operators, fabricators, and laborers | 16,064 | 17,246 | 14.0 | 17,536 | 13.5 | 7.4 | 9.2 | −290 | −1.7 | 7.4 | 6.3 |

Projection error is inversely related to employment size, as past projection evaluations have indicated. In 1984, fewer than 100,000 workers were employed in each of 211 of the 348 occupations included in the evaluation. These 211 occupations had an average projection error of about 29 percent, whereas 32 occupations with more than 500,000 workers in 1984 had an average error of about 12.2 percent.

The direction of employment change was projected correctly for more than 70 percent of the occupations included in the evaluation. Employment growth was projected for the majority of all the occupations. Of the 231 occupations for which employment actually grew from 1984 to 1995, an increase was projected for all but 16. However, of the 117 occupations for which employment declined, only 37 were projected to decline over the period.

The errors among the occupations included in the evaluation ranged widely. (See table 2.) For example, the difference between projected and actual employment was underestimated by about 42 percent for physicians' assistants and overestimated by about 190 percent for roustabouts. Since roustabouts are primarily concentrated in the oil and gas industry, this projection reveals how the effects of incorrect industry projections can affect the projections for individual occupations.

The last two columns in table 2 present the projected and actual share of the overall employment increase for each of the 207 occupations for which 1984 employment was greater than 50,000. Although there are some notable exceptions, the projected shares for the detailed occupations, like those for the major groups, are relatively accurate.

## Sources of error

Errors in the projections for the detailed occupations included in the evaluation can ultimately be traced back to errors in assumptions or judgment, resulting in incorrectly projected changes in staffing patterns, industry projections, or a combination of both. In order to identify the sources of error, two simulated matrices were created. The first of these was generated by multiplying the projected 1995 staffing patterns of industries by actual 1995 industry employment. The second was produced by multiplying the actual 1995 staffing patterns by projected employment by industry. The first simulation reveals the outcome if the Bureau had projected perfect industry employment totals and the second the outcome if it had projected perfect occupational staffing patterns. Table 2 presents projection errors from the two simulated matrices created to analyze these effects.

In viewing the projection levels and errors for the detailed occupations, it is possible to identify the effects analytical judgments had on the individual projections. Analyses of underlying trends or impacts of technological change were used in developing both the industry projections and the projected staffing patterns of industries. As mentioned in Arthur Andreassen's contribution to this article, industry employment projections were affected by unanticipated economic changes.[5] Employment in manufacturing, for example, did not increase as projected, but declined because of a number of factors, including a reduction in defense spending, rapid growth of imports, and a trend toward outsourcing all types of services. In contrast, employment in services grew at a much faster rate than projected.

The effect of industry errors on occupational employment may be clearly seen in an example taken from table 2. Earlier, it was mentioned that one of the largest projection errors occurred for roustabouts, around 190 percent. Examining the projection errors from both simulations, one can see clearly that the error is attributable more to incorrect industry projections for the related oil and gas industries than to the projected staffing pattern: the error in the simulation using actual staffing patterns and projected industry totals is 115 percent, while it is only 38 percent with actual industry totals and projected staffing patterns.

*Job clusters.* In investigating sources of projection error, it is helpful to examine groups of related occupations, or job clusters. A number of such clusters have been selected for closer examination in this section because they show large projection errors or highlight specific sources of error. For example, the underprojection of the education industry affected the projections for education-related occupations. This conclusion is supported by a review of the two simulated matrices for the projection errors for college and university faculty and teachers' aides and educational assistants. Between 1984 and 1995, the employment of college and university faculty was projected to decline about 14 percent, whereas it actually increased approximately 12 percent. The projected decline was based primarily on the U.S. Department of Education's National Center for Education Statistics' projected drop in college enrollments, reflecting the shrinking population of 18- to 24-year-olds. Enrollment rates, however, increased during the 1980s, as colleges accepted greater numbers of older individuals and enrollment rates of students of traditional college age rose more rapidly than expected.

Due to similar misconceptions about enrollments in higher education, the employment of adult and vocational education teachers also was significantly under-projected. However, the absolute percent error for adult and vocational education teachers is actually larger in the simulation using the projected staffing patterns and actual 1995 industry totals than in the simulation using actual staffing patterns and projected industry employment. (See table 3.) This indicates that the error in the projections for adult and vocational education teachers was in fact more the result of the underlying assumptions or judgments that went into determining the utilization of the workers in the education industry, rather than a result of the projection for the education industry. Although moderately rising demand for adult education was anticipated, the declining population of 18- to 22-year-olds

**Table 2. Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Total employment | | | | | Percent change, 1984–95 | |
|---|---|---|---|---|---|---|---|
| | 1984 | Projected 1995 | | Actual 1995 | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual |
| Total, all occupations | 106,729 | 122,758 | 10.00 | 130,009 | 10.00 | 15.0 | 21.8 |
| Cooks, institution or cafeteria | 361 | 426 | .35 | 426 | .33 | 18.0 | 18.1 |
| Aircraft mechanics | 82 | 98 | .08 | 98 | .08 | 19.7 | 19.8 |
| Mail clerks, except mail machine operators and postal service | 126 | 132 | .11 | 132 | .10 | 5.3 | 5.2 |
| Supervisors of blue-collar workers | 1,794 | 1,931 | 1.57 | 1,925 | 1.48 | 7.6 | 7.3 |
| Butchers and meatcutters | 229 | 220 | .18 | 219 | .17 | –4.1 | –4.5 |
| Crushing and mixing machine operators and tenders | 133 | 137 | .11 | 138 | .11 | 3.5 | 4.0 |
| Highway maintenance workers | 159 | 167 | .14 | 168 | .13 | 5.0 | 5.7 |
| Cannery workers | 74 | 72 | .06 | 72 | .06 | –3.4 | –2.8 |
| Farmers | 1,312 | 1,240 | 1.01 | 1,231 | .95 | –5.5 | –6.2 |
| Stock clerks | 1,707 | 1,800 | 1.47 | 1,815 | 1.40 | 5.5 | 6.3 |
| Industrial machinery mechanics | 438 | 465 | .38 | 470 | .36 | 6.3 | 7.3 |
| Secretaries | 3,050 | 3,369 | 2.74 | 3,403 | 2.62 | 1.5 | 11.6 |
| Pharmacists | 157 | 174 | .14 | 172 | .13 | 1.7 | 9.6 |
| Loan and credit clerks | 146 | 172 | .14 | 174 | .13 | 17.5 | 19.2 |
| Bus drivers, except school | 138 | 156 | .13 | 158 | .12 | 13.3 | 14.9 |
| Tire repairers and changers | 80 | 90 | .07 | 91 | .07 | 12.8 | 14.5 |
| Guards | 680 | 903 | .74 | 917 | .71 | 32.8 | 34.9 |
| Brokers, real estate | 58 | 68 | .06 | 69 | .05 | 16.2 | 18.1 |
| Supervisors of police and detectives | 80 | 89 | .07 | 88 | .07 | 11.3 | 9.3 |
| Purchasing agents, except wholesale, retail, and farm products | 183 | 216 | .18 | 220 | .17 | 18.2 | 2.6 |
| Bookkeeping, accounting, and auditing clerks | 2,019 | 2,158 | 1.76 | 2,217 | 1.71 | 6.9 | 9.8 |
| Order clerks for materials, merchandise, and service | 263 | 315 | .26 | 324 | .25 | 19.9 | 23.3 |
| Public relations specialists and publicity writers | 83 | 108 | .09 | 112 | .09 | 3.9 | 34.6 |
| Cabinetmakers and bench carpenters | 104 | 124 | .10 | 127 | .10 | 18.7 | 22.1 |
| Welders and cutters | 291 | 330 | .27 | 340 | .26 | 13.5 | 16.9 |
| Dental assistants | 149 | 191 | .16 | 197 | .15 | 28.0 | 31.9 |
| Dispatchers, except police, fire, and ambulance | 118 | 142 | .12 | 146 | .11 | 19.7 | 23.5 |
| Waiters and waitresses | 1,570 | 1,978 | 1.61 | 1,916 | 1.47 | 25.9 | 22.0 |
| Drywall installers and finishers | 117 | 129 | .11 | 125 | .10 | 1.2 | 6.8 |
| Pressing machine operators and tenders, textile, garment, and related | 89 | 80 | .07 | 78 | .06 | –1.3 | –13.1 |
| Stenographers | 172 | 101 | .08 | 105 | .08 | –41.2 | 39.2 |
| Numerical control machine tool operators and tenders, metal/plastic | 58 | 74 | .06 | 77 | .06 | 28.7 | 33.1 |
| Pipelayers and pipelaying fitters | 53 | 59 | .05 | 57 | .04 | 12.9 | 9.0 |
| Food counter, fountain, and related workers | 1,377 | 1,627 | 1.33 | 1,692 | 1.30 | 18.2 | 22.9 |
| Paralegals | 54 | 105 | .09 | 110 | .08 | 96.2 | 104.2 |
| Licensed practical nurses | 593 | 695 | .57 | 724 | .56 | 17.3 | 22.1 |
| Machine-forming operators and tenders, metal and plastic | 174 | 170 | .14 | 177 | .14 | –2.2 | 1.9 |
| Bank tellers | 497 | 522 | .43 | 545 | .42 | 5.1 | 9.7 |
| Machine builders and other precision machine assemblers | 53 | 63 | .05 | 61 | .05 | 2.5 | 15.6 |
| Medical assistants | 126 | 204 | .17 | 214 | .16 | 62.5 | 7.6 |
| Electricians | 511 | 592 | .48 | 565 | .43 | 15.9 | 1.5 |
| Truck drivers, light and heavy | 2,123 | 2,511 | 2.05 | 2,648 | 2.04 | 18.3 | 24.7 |
| Photographers | 92 | 121 | .10 | 115 | .09 | 31.6 | 25.1 |
| Production, planning, and expediting clerks | 210 | 230 | .19 | 243 | .19 | 9.6 | 15.9 |
| Packaging and filling machine operators and tenders | 298 | 314 | .26 | 333 | .26 | 5.4 | 11.9 |
| Textile drawout and winding machine operators and tenders | 237 | 199 | .16 | 188 | .14 | –15.9 | –2.6 |
| Sewing machine operators, nongarment | 137 | 137 | .11 | 130 | .10 | .4 | –5.2 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Total employment | | | | | Percent change, 1984–95 | |
|---|---|---|---|---|---|---|---|
| | 1984 | Projected 1995 | | Actual 1995 | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual |
| Carpet installers | 64 | 75 | .06 | 70 | .05 | 15.8 | 9.3 |
| Salespersons, retail | 3,284 | 3,729 | 3.04 | 3,970 | 3.05 | 13.6 | 2.9 |
| Heating, air-conditioning, and refrigeration mechanics and installers | 209 | 247 | .20 | 233 | .18 | 18.0 | 11.1 |
| Police patrol officers | 334 | 378 | .31 | 403 | .31 | 13.1 | 2.7 |
| Janitors and cleaners, including maids/houskeeping cleaners | 2,449 | 2,890 | 2.35 | 3,086 | 2.37 | 18.0 | 26.0 |
| Extruding and forming machine setters, operators, and tenders | 104 | 110 | .09 | 103 | .08 | 5.6 | –.8 |
| Carpenters | 940 | 1,029 | .84 | 965 | .74 | 9.5 | 2.7 |
| Travel agents | 94 | 138 | .11 | 129 | .10 | 46.5 | 37.3 |
| Sheet metal workers and duct installers | 215 | 246 | .20 | 230 | .18 | 14.3 | 7.0 |
| Employment interviewers, private or public employment service | 63 | 89 | .07 | 83 | .06 | 39.5 | 3.1 |
| Cost estimators | 143 | 171 | .14 | 184 | .14 | 19.2 | 28.5 |
| Central office and PBX installers and repairers | 77 | 86 | .07 | 80 | .06 | 11.4 | 3.8 |
| Insulation workers | 53 | 60 | .05 | 65 | .05 | 12.9 | 21.9 |
| Chemists | 84 | 89 | .07 | 96 | .07 | 5.6 | 14.0 |
| Personnel clerks, except payroll and timekeeping | 115 | 135 | .11 | 125 | .10 | 16.5 | 8.2 |
| Helpers, construction trades | 466 | 484 | .39 | 525 | .40 | 3.8 | 12.5 |
| Librarians, professional | 128 | 139 | .11 | 152 | .12 | 8.5 | 18.2 |
| Chemical equipment controllers, operators, and tenders | 77 | 79 | .06 | 73 | .06 | 3.1 | –5.1 |
| Police detectives and investigators | 55 | 60 | .05 | 66 | .05 | 1.1 | 2.8 |
| Plastic molding machine operators and tenders, setters, and setup operators | 142 | 185 | .15 | 169 | .13 | 29.6 | 18.9 |
| Registered nurses | 1,326 | 1,758 | 1.43 | 1,937 | 1.49 | 32.6 | 46.1 |
| Maintenance repairers, general utility | 999 | 1,173 | .96 | 1,294 | 1.00 | 17.4 | 29.5 |
| Physicians | 487 | 600 | .49 | 548 | .42 | 23.2 | 12.6 |
| Painters and paperhangers, construction and maintenance | 368 | 384 | .31 | 424 | .33 | 4.3 | 15.2 |
| Refuse collectors | 106 | 125 | .10 | 114 | .09 | 17.9 | 7.0 |
| Welfare eligibility workers and interviewers | 82 | 94 | .08 | 105 | .08 | 15.0 | 28.1 |
| Concrete and terrazzo finishers | 100 | 117 | .10 | 130 | .10 | 17.0 | 3.4 |
| Mobile heavy equipment mechanics | 102 | 119 | .10 | 107 | .08 | 16.6 | 5.6 |
| New-accounts clerks, banking | 87 | 99 | .08 | 111 | .09 | 14.4 | 27.7 |
| Data entry keyers, except composing | 369 | 370 | .30 | 414 | .32 | .4 | 12.3 |
| Institutional cleaning supervisors | 108 | 141 | .12 | 128 | .10 | 3.9 | 18.2 |
| Taxi drivers and chauffeurs | 84 | 95 | .08 | 107 | .08 | 12.9 | 26.7 |
| Sewing machine operators, garment | 673 | 568 | .46 | 511 | .39 | –15.7 | –24.1 |
| Payroll and timekeeping clerks | 192 | 182 | .15 | 163 | .13 | –5.6 | –15.2 |
| Artists and commercial artists | 184 | 240 | .20 | 272 | .21 | 3.2 | 47.3 |
| Combination machine tool setters, setup operators, operators, and tenders | 95 | 122 | .10 | 109 | .08 | 28.1 | 14.8 |
| Cooks, restaurant | 485 | 630 | .51 | 714 | .55 | 29.9 | 47.0 |
| Respiratory therapists | 53 | 64 | .05 | 73 | .06 | 2.6 | 36.6 |
| Machine feeders and offbearers | 278 | 296 | .24 | 265 | .20 | 6.6 | –4.7 |
| Lawyers | 527 | 722 | .59 | 645 | .50 | 37.1 | 22.6 |
| Firefighters | 214 | 247 | .20 | 220 | .17 | 15.3 | 2.9 |
| Machinists | 386 | 424 | .35 | 378 | .29 | 9.7 | –2.1 |
| Clinical lab technologists and technicians | 231 | 245 | .20 | 279 | .21 | 6.0 | 2.6 |
| Aircraft pilots and flight engineers | 66 | 82 | .07 | 93 | .07 | 24.0 | 41.2 |
| Hairdressers, hairstylists, and cosmetologists | 525 | 687 | .56 | 611 | .47 | 3.8 | 16.4 |
| Food preparation workers | 879 | 1,078 | .88 | 1,230 | .95 | 22.6 | 39.9 |
| Home appliance and power tool repairers | 75 | 86 | .07 | 77 | .06 | 15.2 | 2.3 |
| Child care workers, private household | 401 | 347 | .28 | 308 | .24 | –13.5 | –23.2 |
| Cutting and slicing machine setters, operators, and tenders | 82 | 81 | .07 | 94 | .07 | –.7 | 14.4 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Total employment | | | | | Percent change, 1984–95 | |
|---|---|---|---|---|---|---|---|
| | 1984 | Projected 1995 | | Actual 1995 | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual |
| Bus drivers, school | 311 | 364 | .30 | 420 | .32 | 17.2 | 35.0 |
| Writers and editors, including technical writers | 194 | 246 | .20 | 284 | .22 | 26.9 | 46.5 |
| Library assistants and bookmobile drivers | 97 | 107 | .09 | 123 | .09 | 9.7 | 26.6 |
| Insurance sales workers | 425 | 474 | .39 | 415 | .32 | 11.4 | –2.5 |
| Wholesale and retail buyers, except farm products | 189 | 214 | .17 | 187 | .14 | 13.2 | –1.2 |
| Cashiers | 2,016 | 2,627 | 2.14 | 3,080 | 2.37 | 3.3 | 52.8 |
| Insurance adjusters, examiners, and investigators | 109 | 138 | .11 | 162 | .12 | 26.7 | 48.9 |
| Science and mathematics technicians | 233 | 268 | .22 | 233 | .18 | 15.3 | .1 |
| Automotive body and related repairers | 202 | 243 | .20 | 210 | .16 | 19.9 | 3.9 |
| Bricklayers and stonemasons | 154 | 170 | .14 | 148 | .11 | 1.6 | –4.2 |
| Cleaners and servants, private household | 532 | 409 | .33 | 484 | .37 | –23.1 | –9.1 |
| Personnel, training, and labor relations specialists | 221 | 262 | .21 | 310 | .24 | 18.5 | 4.2 |
| Underwriters | 90 | 112 | .09 | 97 | .07 | 24.1 | 7.4 |
| Woodworking machine operators and tenders, setters, and setup operators | 72 | 77 | .06 | 67 | .05 | 6.7 | –7.8 |
| Inspectors and compliance officers, except construction | 120 | 133 | .11 | 158 | .12 | 1.9 | 32.2 |
| Machine assemblers | 51 | 61 | .05 | 53 | .04 | 19.8 | 2.9 |
| Hotel desk clerks | 97 | 115 | .09 | 137 | .11 | 18.3 | 41.6 |
| Drafters | 326 | 367 | .30 | 315 | .24 | 12.7 | –3.5 |
| Plumbers, pipefitters, and steamfitters | 384 | 442 | .36 | 378 | .29 | 14.9 | –1.7 |
| Farm managers | 164 | 180 | .15 | 154 | .12 | 9.8 | –6.1 |
| Gardeners and groundskeepers, except farm | 597 | 639 | .52 | 545 | .42 | 7.0 | –8.8 |
| Physical therapists | 59 | 86 | .07 | 104 | .08 | 45.3 | 76.6 |
| Designers | 198 | 252 | .21 | 307 | .24 | 27.7 | 55.5 |
| Brokerage clerks | 51 | 60 | .05 | 73 | .06 | 18.0 | 43.7 |
| Automotive mechanics | 706 | 859 | .70 | 728 | .56 | 21.6 | 3.1 |
| Dental hygienists | 83 | 107 | .09 | 130 | .10 | 28.7 | 56.9 |
| Bus and truck mechanics and diesel engine specialists | 256 | 309 | .25 | 262 | .20 | 2.4 | 2.0 |
| Water and liquid waste treatment plant and systems operators | 71 | 79 | .06 | 97 | .07 | 11.6 | 36.8 |
| Inspectors, testers, and graders, precision | 701 | 791 | .64 | 668 | .51 | 13.0 | –4.6 |
| Drivers/salesworkers | 253 | 276 | .23 | 339 | .26 | 9.2 | 33.9 |
| Cooks, short order and fast food | 543 | 637 | .52 | 785 | .60 | 17.3 | 44.6 |
| Order fillers, wholesale and retail sales | 188 | 182 | .15 | 225 | .17 | –3.1 | 19.6 |
| Roofers | 137 | 156 | .13 | 131 | .10 | 13.5 | –4.6 |
| Counselors | 116 | 135 | .11 | 168 | .13 | 16.0 | 44.8 |
| Office machine and cash register servicers | 53 | 70 | .06 | 58 | .04 | 31.8 | 9.9 |
| Laundry and drycleaning machine operators and tenders, except pressing | 130 | 145 | .12 | 182 | .14 | 11.5 | 39.2 |
| Millwrights | 87 | 94 | .08 | 78 | .06 | 7.0 | –1.9 |
| Customer service representatives, utilities | 104 | 122 | .10 | 152 | .12 | 16.7 | 45.9 |
| Industrial truck and tractor operators | 426 | 381 | .31 | 477 | .37 | –1.6 | 11.8 |
| Upholsterers | 68 | 77 | .06 | 64 | .05 | 11.9 | –6.8 |
| Hosts and hostesses, restaurant/lounge/ coffee shop | 158 | 203 | .17 | 255 | .20 | 28.5 | 61.4 |
| Reservation and transportation ticket agents and travel clerks | 106 | 115 | .09 | 145 | .11 | 9.0 | 37.0 |
| File clerks | 223 | 231 | .19 | 292 | .22 | 3.4 | 3.6 |
| Recreation workers | 154 | 180 | .15 | 228 | .18 | 16.8 | 47.7 |
| Psychologists | 92 | 110 | .09 | 139 | .11 | 19.8 | 51.5 |
| Electronics repairers, commercial and industrial equipment | 77 | 91 | .07 | 76 | .06 | 18.4 | –2.3 |
| Bartenders | 366 | 466 | .38 | 385 | .30 | 27.4 | 5.1 |
| Statistical clerks | 69 | 60 | .05 | 77 | .06 | –12.6 | 11.4 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Total employment | | | | | Percent change, 1984–95 | |
|---|---|---|---|---|---|---|---|
| | 1984 | Projected 1995 | | Actual 1995 | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual |
| Dentists | 160 | 200 | .16 | 165 | .13 | 25.1 | 2.9 |
| Tool and die makers | 165 | 178 | .15 | 146 | .11 | 8.3 | –11.2 |
| Radiologic technologists and technicians | 109 | 134 | .11 | 172 | .13 | 23.2 | 58.0 |
| Musicians | 184 | 208 | .17 | 267 | .21 | 13.0 | 45.2 |
| Accountants and auditors | 902 | 1,213 | .99 | 991 | .76 | 34.5 | 9.8 |
| Producers, directors, actors, and entertainers | 61 | 76 | .06 | 98 | .08 | 23.6 | 59.7 |
| Amusement and recreation attendants | 179 | 218 | .18 | 282 | .22 | 21.6 | 57.2 |
| Head sawyers and saw machine operators and tenders, setters, and setup operators | 75 | 80 | .07 | 65 | .05 | 6.6 | –13.1 |
| College and university faculty | 758 | 654 | .53 | 848 | .65 | –13.8 | 11.8 |
| Paper goods machine setters and setup operators | 60 | 63 | .05 | 51 | .04 | 4.4 | –15.1 |
| Sales agents, real estate | 290 | 332 | .27 | 270 | .21 | 14.2 | –7.2 |
| Dispatchers, police, fire, and ambulance | 58 | 64 | .05 | 84 | .06 | 1.5 | 43.6 |
| Duplicating, mail, and other office machine operators | 152 | 175 | .14 | 230 | .18 | 15.5 | 51.4 |
| Punch machine setters and setup operators, metal and plastic | 63 | 61 | .05 | 49 | .04 | –2.7 | –21.4 |
| Flight attendants | 68 | 83 | .07 | 109 | .08 | 21.0 | 59.7 |
| Chemical engineers | 52 | 64 | .05 | 51 | .04 | 21.8 | –2.3 |
| Farm workers | 1,002 | 863 | .70 | 692 | .53 | –13.8 | –3.9 |
| Postal mail carriers | 240 | 248 | .20 | 330 | .25 | 3.3 | 37.9 |
| Radio and television announcers and newscasters | 58 | 64 | .05 | 50 | .04 | 9.9 | –12.6 |
| Social workers | 342 | 419 | .34 | 570 | .44 | 22.5 | 66.6 |
| Barbers | 75 | 83 | .07 | 65 | .05 | 9.8 | –13.4 |
| Station installers and repairers, telephone | 58 | 47 | .04 | 37 | .03 | –18.1 | –35.6 |
| Insurance claims clerks | 78 | 87 | .07 | 120 | .09 | 12.4 | 54.9 |
| Teachers' aides and educational assistants | 594 | 700 | .57 | 966 | .74 | 17.9 | 62.8 |
| Sheriffs and deputy sheriffs | 61 | 62 | .05 | 86 | .07 | 2.9 | 42.3 |
| Messengers | 90 | 100 | .08 | 139 | .11 | 11.2 | 54.6 |
| Correction officers | 167 | 225 | .18 | 314 | .24 | 34.5 | 87.7 |
| Civil engineers, including traffic engineers | 188 | 243 | .20 | 188 | .14 | 29.4 | .1 |
| Telephone and cable television line installers and repairers | 123 | 140 | .11 | 198 | .15 | 14.1 | 61.8 |
| Textile machine setters and setup operators | 58 | 49 | .04 | 38 | .03 | –15.4 | –34.7 |
| Industrial engineers, except safety engineers | 117 | 152 | .12 | 116 | .09 | 3.0 | –.3 |
| Vehicle washers and equipment cleaners | 165 | 177 | .14 | 254 | .20 | 7.4 | 54.5 |
| Computer operators, except peripheral equipment | 241 | 350 | .29 | 267 | .21 | 45.5 | 11.1 |
| Machine tool cutting operators and tenders, metal and plastic | 172 | 164 | .13 | 125 | .10 | –4.6 | –27.4 |
| Child care workers | 511 | 563 | .46 | 821 | .63 | 1.1 | 6.5 |
| Nursery workers | 54 | 58 | .05 | 85 | .07 | 6.9 | 55.8 |
| Mechanical engineers | 231 | 309 | .25 | 233 | .18 | 33.6 | 1.0 |
| Meat, poultry, and fish cutters and trimmers, hand | 98 | 93 | .08 | 138 | .11 | –4.3 | 41.5 |
| Lathe machine tool setters and setup operators, metal and plastic | 99 | 98 | .08 | 74 | .06 | –.5 | –25.0 |
| Grinding machine setters and setup operators, metal and plastic | 89 | 87 | .07 | 64 | .05 | –2.2 | –28.1 |
| Drill machine tool setters and setup operators, metal and plastic | 65 | 64 | .05 | 47 | .04 | –.7 | –27.4 |
| Electrical and electronic assemblers | 256 | 300 | .24 | 218 | .17 | 17.0 | –15.0 |
| Data-processing equipment repairers | 61 | 106 | .09 | 77 | .06 | 72.8 | 24.8 |
| Switchboard operators | 256 | 330 | .27 | 238 | .18 | 29.1 | –7.0 |
| Electrical and electronic equipment assemblers, precision | 175 | 205 | .17 | 148 | .11 | 17.5 | –15.4 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Total employment | | | | | Percent change, 1984–95 | |
|---|---|---|---|---|---|---|---|
| | 1984 | Projected 1995 | | Actual 1995 | | | |
| | | Level | Share (percent) | Level | Share (percent) | Projected | Actual |
| Animal caretakers, except farm | 71 | 75 | .06 | 124 | .10 | 6.2 | 75.0 |
| Computer programmers | 440 | 782 | .64 | 559 | .43 | 77.6 | 26.9 |
| Adult and vocational education teachers | 303 | 352 | .29 | 587 | .45 | 15.9 | 93.6 |
| Computer systems analysts, engineers, and scientists | 306 | 503 | .41 | 860 | .66 | 64.4 | 18.8 |
| Structural and reinforcing metal workers | 77 | 91 | .07 | 63 | .05 | 17.8 | –17.8 |
| Typists and word processors | 922 | 954 | .78 | 662 | .51 | 3.5 | –28.1 |
| Bill and account collectors | 112 | 144 | .12 | 259 | .20 | 28.4 | 131.1 |
| Electrical and electronic technicians/ technologists | 310 | 460 | .37 | 316 | .24 | 48.4 | 2.0 |
| Welding machine setters, operators, and tenders | 131 | 157 | .13 | 107 | .08 | 19.9 | –18.1 |
| Reporters and correspondents | 69 | 83 | .07 | 57 | .04 | 19.9 | –18.2 |
| Custom tailors and sewers | 112 | 123 | .10 | 83 | .06 | 1.5 | –26.1 |
| Emergency medical technicians | 62 | 66 | .05 | 140 | .11 | 5.3 | 124.5 |
| Electromechanical equipment assemblers, precision | 61 | 75 | .06 | 48 | .04 | 24.0 | –2.0 |
| Adjustment clerks | 130 | 158 | .13 | 384 | .30 | 21.9 | 196.0 |
| Precision instrument repairers | 57 | 65 | .05 | 39 | .03 | 13.4 | –31.3 |
| Service station attendants | 289 | 287 | .23 | 167 | .13 | –.8 | –42.1 |
| Electrical and electronics engineers | 399 | 607 | .49 | 353 | .27 | 52.2 | –11.4 |
| Roustabouts | 78 | 79 | .06 | 27 | .02 | 1.1 | –65.2 |

| | Numerical error, 1995 (projected minus actual) | Absolute percent error, 1995 | Absolute percent error, 1995 | | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|
| | | | Actual industry totals to projected staffing pattern | Actual staffing pattern to projected industry totals | Projected | Actual |
| Total, all occupations | –7,250 | 5.6 | .0 | 5.6 | 10.00 | 10.00 |
| Cooks, institution or cafeteria | 0 | .1 | 22.4 | 17.8 | .41 | .28 |
| Aircraft mechanics | 0 | .1 | 14.6 | 13.4 | .10 | .07 |
| Mail clerks, except mail machine operators and postal service | 0 | .1 | 6.5 | 6.6 | .04 | .03 |
| Supervisors of blue-collar workers | 6 | .3 | 1.3 | 1.7 | .85 | .56 |
| Butchers and meatcutters | 1 | .4 | 13.5 | 1.9 | –.06 | –.04 |
| Crushing and mixing machine operators and tenders | –1 | .5 | 1.0 | 2.0 | .03 | .02 |
| Highway maintenance workers | –1 | .6 | 13.0 | 12.0 | .05 | .04 |
| Cannery workers | 0 | .6 | 11.1 | 1.8 | –.02 | –.01 |
| Farmers | 9 | .7 | 8.8 | 3.8 | –.45 | –.35 |
| Stock clerks | –15 | .8 | 2.0 | 3.2 | .58 | .46 |
| Industrial machinery mechanics | –5 | 1.0 | 5.9 | 6.8 | .17 | .14 |
| Secretaries | –34 | 1.0 | 4.5 | 6.0 | 2.00 | 1.52 |
| Pharmacists | 2 | 1.0 | 2.7 | 5.5 | .10 | .06 |
| Loan and credit clerks | –2 | 1.4 | 7.7 | 7.9 | .16 | .12 |
| Bus drivers, except school | –2 | 1.4 | 3.2 | 24.7 | .11 | .09 |
| Tire repairers and changers | –1 | 1.5 | 4.2 | 5.8 | .06 | .05 |
| Guards | –14 | 1.5 | 11.1 | 11.5 | 1.39 | 1.02 |
| Brokers, real estate | –1 | 1.6 | 47.3 | 1.5 | .06 | .05 |
| Supervisors of police and detectives | 2 | 1.8 | 14.9 | 1.7 | .06 | .03 |
| Purchasing agents, except wholesale, retail, and farm products | –4 | 2.0 | 8.6 | 9.0 | .21 | .16 |
| Bookkeeping, accounting, and auditing clerks | –59 | 2.7 | 1.0 | 3.8 | .87 | .85 |
| Order clerks for materials, merchandise, and service | –9 | 2.8 | 4.2 | .6 | .33 | .26 |
| Public relations specialists and publicity writers | –3 | 2.8 | 1.1 | 11.5 | .16 | .12 |
| Cabinetmakers and bench carpenters | –4 | 2.8 | 2.5 | 2.7 | .12 | .10 |
| Welders and cutters | –10 | 2.8 | 12.4 | 1.8 | .25 | .21 |
| Dental assistants | –6 | 3.0 | 9.8 | 12.1 | .26 | .20 |
| Dispatchers, except police, fire, and ambulance | –5 | 3.1 | 4.4 | 8.6 | .15 | .12 |

Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual

[Numbers in thousands]

| Occupation | Numerical error, 1995 (projected minus actual) | Absolute percent error, 1995 | Absolute percent error, 1995 | | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|
| | | | Actual industry totals to projected staffing pattern | Actual staffing pattern to projected industry totals | Projected | Actual |
| Waiters and waitresses | 61 | 3.2 | 15.2 | 1.1 | 2.54 | 1.49 |
| Drywall installers and finishers | 4 | 3.2 | 8.6 | 3.9 | .07 | .03 |
| Pressing machine operators and tenders, textile, garment, and related | 3 | 3.2 | 15.7 | 15.2 | –.06 | –.05 |
| Stenographers | –3 | 3.3 | 3.4 | 7.8 | –.44 | –.29 |
| Numerical control machine tool operators and tenders, metal/plastic | –3 | 3.3 | 2.9 | 19.9 | .10 | .08 |
| Pipelayers and pipelaying fitters | 2 | 3.6 | 1.6 | 5.2 | .04 | .02 |
| Food counter, fountain, and related workers | –65 | 3.8 | 6.5 | 9.9 | 1.56 | 1.35 |
| Paralegals | –4 | 3.9 | 2.7 | 1.9 | .32 | .24 |
| Licensed practical nurses | –29 | 4.0 | 1.0 | 12.6 | .64 | .56 |
| Machine-forming operators and tenders, metal and plastic | –7 | 4.0 | 13.4 | 7.2 | –.02 | .01 |
| Bank tellers | –23 | 4.2 | 12.2 | 8.7 | .16 | .21 |
| Machine builders and other precision machine assemblers | 3 | 4.3 | 14.3 | 2.8 | .07 | .04 |
| Medical assistants | –10 | 4.7 | 8.2 | 12.4 | .49 | .38 |
| Electricians | 27 | 4.8 | 11.6 | 5.5 | .51 | .23 |
| Truck drivers, light and heavy | –137 | 5.2 | 4.1 | 8.4 | 2.42 | 2.26 |
| Photographers | 6 | 5.2 | 1.1 | 3.1 | .18 | .10 |
| Production, planning, and expediting clerks | –13 | 5.5 | 17.9 | 13.0 | .13 | .14 |
| Packaging and filling machine operators and tenders | –19 | 5.8 | 5.0 | 2.6 | .10 | .15 |
| Textile drawout and winding machine operators and tenders | 11 | 5.9 | 11.0 | 4.7 | –.24 | –.21 |
| Sewing machine operators, nongarment | 8 | 5.9 | 11.2 | 2.4 | .00 | –.03 |
| Carpet installers | 4 | 5.9 | 2.2 | 9.2 | .06 | .03 |
| Salespersons, retail | –241 | 6.1 | 1.6 | 4.6 | 2.78 | 2.95 |
| Heating, air-conditioning, and refrigeration mechanics and installers | 14 | 6.2 | 12.1 | 5.6 | .23 | .10 |
| Police patrol officers | –25 | 6.3 | 7.0 | 12.0 | .27 | .30 |
| Janitors and cleaners, including maids/ housekeeping cleaners | –196 | 6.3 | 6.7 | 12.6 | 2.75 | 2.74 |
| Extruding and forming machine setters, operators, and tenders | 7 | 6.4 | 8.7 | 3.0 | .04 | .00 |
| Carpenters | 64 | 6.6 | 12.2 | 3.8 | .56 | .11 |
| Travel agents | 9 | 6.7 | 14.1 | 9.5 | .27 | .15 |
| Sheet metal workers and duct installers | 16 | 6.8 | 2.6 | 4.5 | .19 | .06 |
| Employment interviewers, private or public employment service | 6 | 7.2 | 23.0 | 13.3 | .16 | .08 |
| Cost estimators | –13 | 7.3 | 7.3 | .3 | .17 | .18 |
| Central office and PBX installers and repairers | 6 | 7.3 | 9.1 | 17.8 | .05 | .01 |
| Insulation workers | –5 | 7.4 | 4.7 | 3.4 | .04 | .05 |
| Chemists | –7 | 7.4 | 2.6 | 11.3 | .03 | .05 |
| Personnel clerks, except payroll and timekeeping | 10 | 7.7 | 7.9 | .7 | .12 | .04 |
| Helpers, construction trades | –41 | 7.8 | 6.1 | .4 | .11 | .25 |
| Librarians, professional | –13 | 8.2 | 9.6 | 16.0 | .07 | .10 |
| Chemical equipment controllers, operators, and tenders | 6 | 8.6 | 1.4 | 9.6 | .01 | –.02 |
| Police detectives and investigators | –6 | 8.9 | .1 | 7.5 | .03 | .05 |
| Plastic molding machine operators and tenders, setters, and setup operators | 15 | 9.0 | 6.7 | 2.7 | .26 | .12 |
| Registered nurses | –179 | 9.2 | 3.7 | 12.3 | 2.70 | 2.63 |
| Maintenance repairers, general utility | –121 | 9.4 | 5.5 | 7.4 | 1.08 | 1.27 |
| Physicians | 52 | 9.4 | 22.3 | 9.5 | .70 | .26 |
| Painters and paperhangers, construction and maintenance | –40 | 9.5 | 2.3 | 5.8 | .10 | .24 |
| Refuse collectors | 12 | 1.2 | 46.4 | 22.8 | .12 | .03 |
| Welfare eligibility workers and interviewers | –11 | 1.2 | 2.2 | 8.3 | .08 | .10 |
| Concrete and terrazzo finishers | –13 | 1.3 | 2.0 | 8.3 | .11 | .13 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Numerical error, 1995 (projected minus actual) | Absolute percent error, 1995 | Absolute percent error, 1995 | | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|
| | | | Actual industry totals to projected staffing pattern | Actual staffing pattern to projected industry totals | Projected | Actual |
| Mobile heavy equipment mechanics | 11 | 1.4 | 8.1 | 3.6 | .11 | .02 |
| New accounts clerks, banking | –12 | 1.4 | 17.7 | 9.0 | .08 | .10 |
| Data entry keyers, except composing | –44 | 1.7 | 4.6 | 7.9 | .01 | .20 |
| Institutional cleaning supervisors | 14 | 1.8 | 28.8 | 12.8 | .21 | .08 |
| Taxi drivers and chauffeurs | –12 | 1.8 | 6.0 | 18.0 | .07 | .10 |
| Sewing machine operators, garment | 57 | 11.1 | 2.7 | 9.2 | –.66 | –.70 |
| Payroll and timekeeping clerks | 19 | 11.4 | 16.7 | 3.7 | –.07 | –.13 |
| Artists and commercial artists | –31 | 11.6 | 2.7 | 5.7 | .35 | .37 |
| Combination machine tool setters, setup operators, operators, and tenders | 13 | 11.6 | 3.8 | 13.7 | .17 | .06 |
| Cooks, restaurant | –83 | 11.7 | 4.2 | 9.4 | .90 | .98 |
| Respiratory therapists | –9 | 11.7 | .8 | 12.2 | .07 | .08 |
| Machine feeders and offbearers | 31 | 11.8 | 11.7 | .8 | .11 | –.06 |
| Lawyers | 76 | 11.8 | 9.5 | 3.8 | 1.22 | .51 |
| Firefighters | 27 | 12.1 | 27.7 | 12.1 | .20 | .03 |
| Machinists | 46 | 12.1 | .4 | 11.9 | .23 | –.04 |
| Clinical lab technologists and technicians | –34 | 12.1 | 2.3 | 12.7 | .09 | .21 |
| Aircraft pilots and flight engineers | –11 | 12.2 | 15.5 | 24.6 | .10 | .12 |
| Hairdressers, hairstylists, and cosmetologists | 75 | 12.3 | 13.5 | .2 | 1.01 | .37 |
| Food preparation workers | –152 | 12.4 | .0 | 11.5 | 1.24 | 1.51 |
| Home appliance and power tool repairers | 10 | 12.6 | 16.2 | .0 | .07 | .01 |
| Child care workers, private household | 39 | 12.7 | 6.4 | 5.9 | –.34 | –.40 |
| Cutting and slicing machine setters, operators, and tenders | –12 | 13.2 | 1.9 | 1.9 | .00 | .05 |
| Bus drivers, school | –55 | 13.2 | 14.6 | 23.8 | .33 | .47 |
| Writers and editors, including technical writers | –38 | 13.4 | 6.9 | 1.0 | .33 | .39 |
| Library assistants and bookmobile drivers | –16 | 13.4 | 2.8 | 15.4 | .06 | .11 |
| Insurance sales workers | 59 | 14.2 | 23.5 | 6.1 | .30 | –.05 |
| Wholesale and retail buyers, except farm products | 27 | 14.6 | 18.2 | 1.6 | .16 | –.01 |
| Cashiers | –453 | 14.7 | 8.8 | 7.1 | 3.81 | 4.57 |
| Insurance adjusters, examiners, and investigators | –24 | 14.9 | 12.1 | 3.7 | .18 | .23 |
| Science and mathematics technicians | 35 | 15.2 | 25.3 | 9.3 | .22 | .00 |
| Automotive body and related repairers | 32 | 15.4 | 24.4 | 5.9 | .25 | .03 |
| Bricklayers and stonemasons | 23 | 15.4 | 2.7 | 3.3 | .10 | –.03 |
| Cleaners and servants, private household | –75 | 15.4 | 2.1 | 5.9 | –.77 | –.21 |
| Personnel, training, and labor relations specialists | –48 | 15.5 | 15.5 | .7 | .26 | .38 |
| Underwriters | 15 | 15.6 | 19.4 | 1.3 | .14 | .03 |
| Woodworking machine operators and tenders, setters, and setup operators | 10 | 15.7 | 15.9 | .8 | .03 | –.02 |
| Inspectors and compliance officers, except construction | –26 | 16.1 | 11.3 | 5.1 | .08 | .17 |
| Machine assemblers | 9 | 16.4 | 2.4 | 21.7 | .06 | .01 |
| Hotel desk clerks | –23 | 16.5 | 8.6 | 8.6 | .11 | .17 |
| Drafters | 53 | 16.8 | 3.4 | 1.9 | .26 | –.05 |
| Plumbers, pipefitters, and steamfitters | 64 | 16.9 | 21.7 | 3.6 | .36 | –.03 |
| Farm managers | 26 | 17.0 | 17.9 | .8 | .10 | –.04 |
| Gardeners and groundskeepers, except farm | 94 | 17.2 | 36.2 | 14.1 | .26 | –.22 |
| Physical therapists | –19 | 17.8 | 6.6 | 12.2 | .17 | .19 |
| Designers | –55 | 17.9 | 4.9 | 4.3 | .34 | .47 |
| Brokerage clerks | –13 | 17.9 | 11.2 | 6.4 | .06 | .10 |
| Automotive mechanics | 131 | 17.9 | 28.9 | 7.9 | .95 | .09 |
| Dental hygienists | –23 | 18.0 | 6.5 | 12.2 | .15 | .20 |
| Bus and truck mechanics and diesel engine specialists | 47 | 18.1 | 28.0 | 7.4 | .33 | .02 |
| Water and liquid waste treatment plant and systems operators | –18 | 18.4 | 5.2 | 13.8 | .05 | .11 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Numerical error, 1995 (projected minus actual) | Absolute percent error, 1995 | Absolute percent error, 1995 | | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|
| | | | Actual industry totals to projected staffing pattern | Actual staffing pattern to projected industry totals | Projected | Actual |
| Inspectors, testers, and graders, precision | 123 | 18.4 | 5.2 | 9.0 | .57 | –.14 |
| Driver/salesworkers | –63 | 18.5 | 15.6 | 6.9 | .15 | .37 |
| Cooks, short order and fast food | –148 | 18.9 | 9.3 | 9.4 | .58 | 1.04 |
| Order fillers, wholesale and retail sales | –43 | 19.0 | 18.1 | .8 | –.04 | .16 |
| Roofers | 25 | 19.0 | 24.7 | 3.4 | .12 | –.03 |
| Counselors | –34 | 19.9 | 1.9 | 17.3 | .12 | .22 |
| Office machine and cash register servicers | 12 | 19.9 | 18.8 | 4.5 | .11 | .02 |
| Laundry and drycleaning machine operators and tenders, except pressing | –36 | 19.9 | 5.0 | 14.9 | .09 | .22 |
| Millwrights | 16 | 2.0 | 15.1 | 3.6 | .04 | –.04 |
| Customer service representatives, utilities | –31 | 2.0 | 31.5 | 16.5 | .11 | .21 |
| Industrial truck and tractor operators | –96 | 2.1 | 18.4 | 2.7 | –.28 | .22 |
| Upholsterers | 13 | 2.1 | 16.8 | 5.6 | .05 | –.02 |
| Hosts and hostesses, restaurant/lounge/ coffee shop | –52 | 2.3 | 12.3 | 1.7 | .28 | .42 |
| Reservation and transportation ticket agents and travel clerks | –30 | 2.5 | 4.8 | 22.2 | .06 | .17 |
| File clerks | –61 | 2.8 | 16.0 | 6.8 | .05 | .29 |
| Recreation workers | –48 | 2.9 | 4.1 | 15.2 | .16 | .32 |
| Psychologists | –29 | 21.0 | 6.5 | 11.6 | .11 | .20 |
| Electronics repairers, commercial and industrial equipment | 16 | 21.1 | 15.3 | 4.4 | .09 | –.01 |
| Bartenders | 82 | 21.2 | 35.7 | 1.9 | .62 | .08 |
| Statistical clerks | –17 | 21.5 | 16.0 | 9.2 | –.05 | .03 |
| Dentists | 35 | 21.5 | 34.9 | 8.5 | .25 | .02 |
| Tool and die makers | 32 | 21.9 | 7.8 | 12.2 | .08 | –.08 |
| Radiologic technologists and technicians | –38 | 22.0 | 11.4 | 11.9 | .16 | .27 |
| Musicians | –59 | 22.2 | 2.4 | 22.1 | .15 | .36 |
| Accountants and auditors | 223 | 22.5 | 23.0 | .0 | 1.94 | .38 |
| Producers, directors, actors, and entertainers | –22 | 22.6 | 2.2 | 12.6 | .09 | .16 |
| Amusement and recreation attendants | –64 | 22.7 | 1.0 | 21.4 | .24 | .44 |
| Head sawyers and saw machine operators and tenders, setters, and setup operators | 15 | 22.7 | 22.6 | 1.2 | .03 | –.04 |
| College and university faculty | –194 | 22.8 | 4.9 | 18.8 | –.65 | .38 |
| Paper goods machine setters and setup operators | 12 | 23.0 | 27.7 | 3.7 | .02 | –.04 |
| Sales agents, real estate | 62 | 23.1 | 34.1 | 5.6 | .26 | –.09 |
| Dispatchers, police, fire, and ambulance | –19 | 23.1 | 1.8 | 13.9 | .04 | .11 |
| Duplicating, mail, and other office machine operators | –55 | 23.7 | 21.0 | 9.1 | .15 | .34 |
| Punch machine setters and setup operators, metal and plastic | 12 | 23.9 | 7.6 | 12.9 | –.01 | –.06 |
| Flight attendants | –26 | 24.2 | 3.9 | 27.1 | .09 | .18 |
| Chemical engineers | 13 | 24.6 | 15.3 | 9.2 | .07 | –.01 |
| Farm workers | 171 | 24.7 | 11.7 | 6.7 | –.87 | –1.33 |
| Postal mail carriers | –83 | 25.1 | 6.6 | 19.7 | .05 | .39 |
| Radio and television announcers and newscasters | 13 | 25.8 | 1.2 | 17.4 | .04 | –.03 |
| Social workers | –151 | 26.5 | 1.5 | 15.9 | .48 | .98 |
| Barbers | 17 | 26.8 | 3.2 | 2.1 | .05 | –.04 |
| Station installers and repairers, telephone | 10 | 27.1 | 7.6 | 18.1 | –.07 | –.09 |
| Insurance claims clerks | –33 | 27.5 | 22.1 | 8.7 | .06 | .18 |
| Teachers' aides and educational assistants | –266 | 27.6 | 7.6 | 2.8 | .66 | 1.60 |
| Sheriffs and deputy sheriffs | –24 | 27.7 | 17.0 | 12.9 | .01 | .11 |
| Messengers | –39 | 28.1 | 23.8 | 5.6 | .06 | .21 |
| Correction officers | –89 | 28.3 | 2.0 | 1.3 | .36 | .63 |
| Civil engineers, including traffic engineers | 55 | 29.3 | 22.9 | 4.9 | .34 | .00 |

**Table 2. Continued—Employment, by occupation, 1984 actual and 1995 projected and actual**

[Numbers in thousands]

| Occupation | Numerical error, 1995 (projected minus actual) | Absolute percent error, 1995 | Absolute percent error, 1995 | | Share of total job growth, 1984–95 | |
|---|---|---|---|---|---|---|
| | | | Actual industry totals to projected staffing pattern | Actual staffing pattern to projected industry totals | Projected | Actual |
| Telephone and cable television line installers and repairers | –59 | 29.5 | 38.1 | 13.7 | .11 | .33 |
| Textile machine setters and setup operators | 11 | 29.6 | 39.1 | 4.9 | –.06 | –.09 |
| Industrial engineers, except safety engineers | 35 | 3.5 | 4.9 | 21.0 | .22 | .00 |
| Vehicle washers and equipment cleaners | –78 | 3.5 | 2.6 | 29.0 | .08 | .39 |
| Computer operators, except peripheral equipment | 83 | 31.0 | 35.3 | 1.6 | .68 | .11 |
| Machine tool cutting operators and tenders, metal and plastic | 39 | 31.4 | 17.8 | 1.4 | –.05 | –.20 |
| Child care workers | –258 | 31.4 | 19.1 | 15.5 | .32 | 1.33 |
| Nursery workers | –27 | 31.4 | 16.3 | 16.1 | .02 | .13 |
| Mechanical engineers | 75 | 32.3 | 14.5 | 14.8 | .48 | .01 |
| Meat, poultry, and fish cutters and trimmers, hand | –45 | 32.4 | 6.0 | 27.9 | –.03 | .17 |
| Lathe machine tool setters and setup operators, metal and plastic | 24 | 32.6 | 13.0 | 15.4 | .00 | –.11 |
| Grinding machine setters and setup operators, metal and plastic | 23 | 36.1 | 21.0 | 13.3 | –.01 | –.11 |
| Drill machine tool setters and setup operators, metal and plastic | 17 | 36.8 | 16.6 | 17.2 | .00 | –.08 |
| Electrical and electronic assemblers | 82 | 37.6 | 4.6 | 43.0 | .27 | –.16 |
| Data-processing equipment repairers | 29 | 38.5 | 33.2 | 3.1 | .28 | .07 |
| Switchboard operators | 92 | 38.9 | 48.9 | 7.4 | .46 | –.08 |
| Electrical and electronic equipment assemblers, precision | 57 | 38.9 | 6.8 | 48.7 | .19 | –.12 |
| Animal caretakers, except farm | –49 | 39.3 | 13.2 | 22.4 | .03 | .23 |
| Computer programmers | 223 | 4.0 | 46.2 | 3.3 | 2.13 | .51 |
| Adult and vocational education teachers | –235 | 4.1 | 26.4 | 15.1 | .30 | 1.22 |
| Computer systems analysts, engineers, and scientists | –356 | 41.5 | 39.8 | 3.6 | 1.23 | 2.38 |
| Structural and reinforcing metal workers | 27 | 43.3 | 47.6 | 2.8 | .09 | –.06 |
| Typists and word processors | 292 | 44.0 | 55.5 | 8.2 | .20 | –1.11 |
| Bill and account collectors | –115 | 44.5 | 42.5 | 3.1 | .20 | .63 |
| Electrical and electronic technicians/ technologists | 144 | 45.5 | 25.7 | 17.7 | .94 | .03 |
| Welding machine setters, operators, and tenders | 50 | 46.3 | 29.6 | 13.8 | .16 | –.10 |
| Reporters and correspondents | 26 | 46.6 | 16.6 | 1.9 | .09 | –.05 |
| Custom tailors and sewers | 41 | 49.4 | 47.9 | 3.2 | .07 | –.12 |
| Emergency medical technicians | –74 | 53.1 | 39.0 | 23.1 | .02 | .33 |
| Electromechanical equipment assemblers, precision | 27 | 55.1 | .7 | 42.3 | .09 | –.05 |
| Adjustment clerks | –226 | 58.8 | 59.5 | .4 | .18 | 1.09 |
| Precision instrument repairers | 26 | 65.0 | 21.4 | 22.4 | .05 | –.08 |
| Service station attendants | 120 | 71.4 | 85.6 | 16.3 | –.01 | –.52 |
| Electrical and electronics engineers | 253 | 71.8 | 41.4 | 2.2 | 1.30 | –.20 |
| Roustabouts | 52 | 19.1 | 37.6 | 114.6 | .01 | –.22 |

was expected to lead to declining demand for vocational education and training. However, the growing number of both entry-level and experienced workers in need of vocational training or retraining in order to update job skills and keep up with rapidly changing technology had more of an impact on demand for these teachers than was anticipated.

Likewise, errors in projections for computer-related occupations were a significant factor contributing to the underestimate of employment for professional specialty occupations.[6] A closer examination of the simulated matrices for certain others reveals the cause of the errors to be largely a result of incorrect assumptions behind the projections of the utilization of these workers by industry. (See table 4.) In the case of computer programmers, highly significant increases were projected across all industries as improvements in computer hardware and software made the technology more versatile, cheaper, and easier to use. But it was precisely these improvements that led to more moder-

ate growth, as computer users, other computer professionals, and automation were able to take over many of the tasks previously performed only by programmers. Similarly, moderate increases were expected for computer operators and operators of peripheral electronic data-processing equipment across all industries as computer usage rose throughout the economy. However, expanding technologies not only reduced both the size and cost of computer equipment, but also automated the tasks previously performed by numerous operators.

In contrast to the increases in employment projected for programmers, significant *decreases* were projected across all industries for data entry keyers, except composing, as a result of anticipated technological change. Although the trend was correctly anticipated, technology appears to have had an even greater impact on these workers than was projected. Virtually the entire error in the projections for data entry keyers, composing, can be attributed to incorrect staffing patterns.

Overall industry employment for health services was significantly underestimated for hospitals, as well as doctors, nursing homes, and miscellaneous health services. Absolute errors for health-related occupations ranged from 53 percent for emergency medical technicians to 1 percent for pharmacists. Although the industry projections had a profound impact on estimated employment for these occupations, much of the error in the individual health-related occupations also can be attributed to errors in staffing patterns. (See table 5.) For example, the 1984 projection of a growing demand for physicians' assistants was realized as the health care industry began to focus more and more on cost containment. The Bureau projected the employment of physicians' assistants to increase moderately in hospitals and significantly in outpatient care facilities. However, the projection was too conservative. Similarly, the impact of a growing demand for rehabilitation and long-term care services was underestimated, as the employment of occupational therapists, projected to grow much faster than average at 36 percent, grew by a phenomenal 159 percent. In the case of licensed practical nurses, the projection was relatively accurate, off by only 4 percent, a result of both underprojected industry totals for health services and incorrect staffing patterns, which offset each other. Along with changes in patient care requirements, the trend toward a reliance on nursing personnel with higher levels of clinical skill was expected to slow growth among licensed practical nurses. However, rapid industry growth in health services and an aging population spurred more demand than was originally expected in nursing homes and residential care facilities.

The BLS evaluation of industry projections also revealed that employment in manufacturing was projected to increase over the 1984–95 period, rather than decline. As a result, the majority of the occupations with declining employment that were projected to increase are in manufacturing and include engineers, precision production workers, machine operators and tenders, and handworkers and fabricators. For example, the employment of workers concentrated in industries that manufacture computer and office equipment, electrical industrial

**Table 3.** Sources of projection error for education-related occupations, 1995, and projected and actual share of total job growth, 1984–95

| Occupation | Absolute percent error | Absolute percent error (actual industry totals to projected staffing pattern) | Absolute percent error (actual staffing pattern to projected industry totals) | Share of total job growth | |
|---|---|---|---|---|---|
| | | | | Projected | Actual |
| College and university faculty | 22.8 | 4.9 | 18.8 | –0.65 | 0.38 |
| Adult and vocational education teachers | 40.1 | 26.4 | 15.1 | .30 | 1.22 |
| Teachers' aides and educational assistants | 27.6 | 7.6 | 20.8 | .66 | 1.60 |

**Table 4.** Sources of projection error for computer-related occupations, 1995, and projected and actual share of total job growth, 1984–95

| Occupation | Absolute percent error | Absolute percent error (actual industry totals to projected staffing pattern) | Absolute percent error (actual staffing pattern to projected industry totals) | Share of total job growth | |
|---|---|---|---|---|---|
| | | | | Projected | Actual |
| Computer programmers | 40.0 | 46.2 | 3.3 | 2.13 | 0.51 |
| Computer operators, except of peripheral equipment | 31.0 | 35.3 | 1.6 | .68 | .11 |
| Operators of peripheral electronic data-processing equipment | 100.7 | 108.4 | 4.2 | .12 | –.05 |
| Data entry keyers, except composing | 10.7 | 4.6 | 7.9 | .01 | .20 |
| Data entry keyers, composing | 79.8 | 79.9 | 5.3 | .06 | –.03 |

apparatus, electronic components and accessories, and aerospace components, such as those workers in occupations listed in table 6, was projected to grow slightly when, in fact, it fell from 1984 to 1995. As indicated in the table, the projected industry totals were the major factor contributing to the error for these occupations.

## Implications for future analyses

The most recent occupational projections to be evaluated were those ending in the year 1990. Looking at the major occupational groups, we can readily see that the projections for 1995 appear more accurate overall than do the 1990 projections. No major group was off by more than in the past, and the largest absolute error for a major group was only 11.3 percent, compared with 22 percent in 1990 for the group, marketing and sales occupations. It is important to remember, however, that projections on such an aggregate scale are, by their nature, uncertain. Because individual occupations, and not major groups, are analyzed, errors are compounded as these occupations are combined. The detailed occupations that make up each group can be large enough that any error in their individual projection can affect the outcome for the overall major group.

In developing the detailed 1984–95 occupational projections, analysts reviewed all available data from both the OES survey and the Current Population Survey (CPS) and projected changes in the occupation-industry cells accordingly, bringing knowledge gained through experience and through studies undertaken in preparing the *Occupational Outlook Handbook*. As a result, numerous changes were made to the occupational coefficients—changes affecting the proportion of an occupation within each industry—as analytical judgments were translated into numerical estimates. A BLS bulletin indicates that, in order to maintain consistency among judgments of the analysts, the following guidelines for increasing or decreasing coefficients were implemented to develop the initial projected coefficients for all occupations across all industries:[7] small change—1 to 4 percent; moderate change—5 to 9 percent; significant change—10 to 20 percent; and very significant change—20 or more percent. The evaluation of the 1984–95 projections has provided analysts the first chance to look back at their work.

Prior to the current evaluation, every BLS evaluation of its occupational projections revealed the projections to be conservative. As the analysis of both individual projections for detailed occupations and percent-change ranges in the *Occupational Outlook Handbook* indicate, the 1984–95 projections are also on the conservative side. The majority of the projections were clustered around average growth, when, in actuality, more occupations appear to have grown much faster than the average or to have declined. The inherent conservatism contributed to overall errors in staffing patterns as well, and part of the reason appears to have been that analysts were too conservative in projecting the matrix coefficients. This trend toward conservatism is recognized by the Bureau, and since 1984, guidelines for projecting the changes in the occupational co-

**Table 5. Sources of projection error for health-related occupations, 1995, and projected and actual share of total job growth, 1984–95**

| Occupation | Absolute percent error | Absolute percent error (actual industry totals to projected staffing pattern) | Absolute percent error (actual staffing pattern to projected industry totals) | Share of total job growth | |
|---|---|---|---|---|---|
| | | | | Projected | Actual |
| Physicians' assistants | 42.4 | 34.7 | 11.4 | 0.07 | 0.16 |
| Occupational therapists | 47.4 | 39.9 | 13.0 | .05 | .15 |
| Occupational therapy assistants and aides | 41.9 | 33.8 | 13.6 | .01 | .03 |
| Emergency medical technicians | 53.1 | 39.0 | 23.1 | .02 | .33 |
| Licensed practical nurses | 4.0 | 10.0 | 12.6 | .64 | .56 |

**Table 6. Sources of projection error for production workers, 1995, and projected and actual share of total job growth, 1984–95**

| Occupation | Absolute percent error | Absolute percent error (actual industry totals to projected staffing pattern) | Absolute percent error (actual staffing pattern to projected industry totals) | Share of total job growth | |
|---|---|---|---|---|---|
| | | | | Projected | Actual |
| Aircraft assemblers, precision | 27.1 | 16.0 | 52.1 | 0.02 | –0.01 |
| Electrical and electronic equipment assemblers, precision | 38.9 | 6.8 | 48.7 | .19 | –.12 |
| Electromechanical equipment assemblers, precision | 55.1 | .7 | 42.3 | .09 | –.05 |
| Electrical and electronic assemblers | 37.6 | 4.6 | 43.0 | .27 | –.16 |

efficients have been revised. For example, in developing the most recent round of projections from 1994 to 2005, the Bureau set forth the following guidelines for interpreting the projected range of changes in the coefficients: small change—10 percent; moderate change—20 percent; significant change—35 percent; and very significant change—50 percent or more. Expanding the range for identifying small, moderate, and large changes should clearly have an impact on the conservatism inherent in the methodology.

With the help of the simulated matrices prepared for the current evaluation, however, it has been possible to pinpoint the *major* source of error for each detailed occupation. Although the impact of good industry projections on developing good occupational projections cannot be underestimated, the chief weakness appears to be in projecting staffing patterns. In the simulated matrix for which the projected staffing patterns were applied to actual 1995 industry totals, the sum of the absolute errors, weighted by 1995 employment, was 7.7 percent. By contrast, in the matrix for which actual 1995 staffing patterns were applied to projected 1995 industry totals, the sum of the absolute errors, weighted by 1995 employment, dropped to 5.6 percent.

In addition to the influence of conservative coefficient change factors on the projections, the impacts of features such as technological change and trends that were not fully realized contributed significantly to errors in staffing patterns. Incorrect analytical judgments relating to the rate and impact of technological change and to trends such as outsourcing and the growth of temporary help agencies played a large role in this regard. The analysis behind the projection for typists is a case in point. As mentioned by Neal Rosenthal in the introduction to this article, the use of computers and word-processing equipment was expected to have a negative impact on the employment of typists and word processors across all industries. But because it was assumed that a very large number of establishments were already using such equipment, and because future technological advances in computing technology were not fully realized at the time, the declining trend in the employment of typists and word processors was not expected to accelerate. The analysis wound up underestimating the impact of changing technology, as actual employment in 1995 fell short of projected employment by more than 290 thousand workers.

Similar to unforeseeable events such as the reduction in defense spending resulting from the breakup of the Soviet Union, changes brought about by technology are becoming harder to predict. For example, the impact of Internet technology is nowhere near being fully realized today, just as the expansion of computer technology into both the home and the workplace, as well as the impact of the personal computer, was recognized, but not fully accounted for, in past projection cycles. □

## Footnotes

[1] In discussing the accuracy of the projected distribution of employment growth among major groups, it is worth addressing a claim made by John H. Bishop in a recent article evaluating the accuracy of BLS projections that "The BLS systematically under-projects the growth of skilled jobs and over-projects the growth of unskilled jobs" (John H. Bishop, "Is the Market for College Graduates Headed for a Bust? Demand and Supply Responses to Rising College Wage Premiums," *New England Economic Review*, May–June 1996, pp. 115–34, quote from p. 123). In his comparison of projected and actual growth for the major occupational groups from 1984 to 1995, Bishop concluded that BLS projected shares of employment growth for professional, technical, and managerial jobs, and for operative, laborer, and service jobs were "far off the mark." If we examine the projected and actual shares of employment growth presented in table 1, however, this does not appear to be the case. Using Current Population Survey-(CPS) based data as the "actual" data to compare with the projections, rather than data based on the Occupational Employment Statistics (OES) survey, which the Bureau uses in developing its projections, Bishop concluded that, from 1984 to 1995, professional, technical, and managerial jobs accounted for 58.3 percent of employment growth, and operative, laborer, and service jobs accounted for 15.9 percent. However, OES-survey-based data paint a different picture. The problem is that the two data sources are not comparable when one estimates employment growth shares for the major occupational groups. BLS industry-occupation data (see table 1) indicate that professional, technical, and managerial jobs actually accounted for only 38.5 percent of employment growth from 1984 to 1995, which is much closer to the projected 35.5 percent. Likewise, operative, laborer, and service jobs accounted for 26.3 percent, only slightly lower than the projected 27.8 percent. (See John H. Bishop and Shani Carter, "How accurate are recent BLS occupational projections?" *Monthly Labor Review*, October 1991, pp. 37–43; and John H. Bishop and Shani Carter, "The Worsening Shortage of College-Graduate Workers," *Educational Evaluation and Policy Analysis*, Fall 1991, pp. 221–46, as well as Bishop, "The Market for College Graduates.")

[2] More details on assumptions leading to the overprojection of engineers are presented in *Occupational Outlook Quarterly* (Bureau of Labor Statistics, Fall 1997).

[3] Details on all 348 occupations included in the evaluation are available from the Office of Employment Projections. Data comparing employment, percent changes, and employment growth categories for all 348 occupations included in the evaluation appear in the Fall 1997 *Occupational Outlook Quarterly*.

[4] Only 132 occupations were covered in the evaluation of the 1990 projections. (See Neal H. Rosenthal, "Evaluating the 1990 projections of occupational employment," *Monthly Labor Review*, August 1992, pp. 32–48.)

[5] See pages 9–15, this issue.

[6] The detailed professional occupation with the largest underestimate of employment was computer engineers, scientists, and systems analysts. So as not to lose a group with significant employment change in the evaluation, the three occupations were combined in order to accommodate the change in the occupational classification when computer engineers and the residual, all other computer scientists, were added to the OES survey in 1989. Though it is not classification pure—that is to say, a change occurred with the addition of computer engineers in 1989—the combined group is assumed to account for the same group of workers for which projections were developed in 1984. The OES survey definition of what computer engineers do is "Analyze data processing requirements to plan EDP system to provide system capabilities required for projected work loads. Plan layout and installation of new systems or modifications of existing system. May set up and control analog or hybrid computer systems to solve scientific or engineering problems" (*Occupational Employment Statistics Dictionary of Occupations: 1988–1996* (Bureau of Labor Statistics, September 1995)). Because the title "computer engineer" is often interpreted to denote engineers who design computer hardware, it is likely that some workers in the group were being collected as part of all other engineers or as electrical and electronics engineers. However,

the historical time series does not reveal any great shift in employment when the separate title was added, indicating that computer engineers were already distributed between electrical and electronics engineers and other computer professionals. CPS data show a similar trend, and there is no separate category for computer engineers.

Some shift in employment away from engineers probably accounts for a portion of the growth in this occupation. Nonetheless, even with the addition of the title "computer engineer," the remarkable growth of computer-related occupations was underestimated, in large part due to the unanticipated rapid advancement of computing technology, particularly the expansion of personal computers. Over the 1984–95 period, the employment of computer systems analysts and scientists was projected to increase 64 percent, making this occupation one of the 10 projected fastest growing ones. However, employment actually increased 181 percent over the period.

[7] See *Employment Projections for 1995: Data and Methods*, Bulletin 2253 (Bureau of Labor Statistics, April 1986).

## Technical note

*Framework of the projections.* The 1984–95 projections of occupational employment were developed within the framework of an industry-occupation matrix containing 378 industries and more than 500 occupations. Data used to develop the 1984 matrix and projected 1995 matrix came from a variety of sources. For industries covered by the Occupational Employment Statistics (OES) survey, the most current survey data were used to develop the occupational distribution or staffing patterns for estimating 1984 wage and salary employment. Employment by occupation in each industry was derived by multiplying the occupational distribution of employment by 1984 wage and salary worker employment for each industry, each of which was obtained from the BLS Current Employment Statistics (CES) survey. Both the CES and OES surveys are surveys of business establishments, covering only wage and salary workers. The 1984 CPS data were used to develop the occupational distribution patterns for workers in agriculture and private households, as well as to develop economywide estimates of self-employed and unpaid family workers by occupation. Occupational distribution patterns for the Federal Government were developed from data compiled by the Office of Personnel Management. Data from the National Center For Education Statistics (NCES) were used for teachers, and data from other independent sources were utilized for select occupations.[1]

The most recent OES survey data available for developing the 1984 matrix came from 1991 for mining, construction, finance, insurance, real estate, and services, other than hospitals and education; from 1982 for trade, transportation, communications, public utilities, and State and local governments; and from 1983 for manufacturing industries and hospitals. The OES survey occupational classification system was revised significantly in 1983, to make it compatible with the newly released Standard Occupational Classification. As a result, only the 1983 survey of manufacturing and hospitals conformed to the 1983 classification, so BLS analysts "forced" the 1981 and 1982 data into the new 1983 configuration.[2] However, some occupations were split into more than one occupation or had not been previously identified separately. One of the difficulties in evaluating the 1984–95 set of projections results from the 1984 matrix being constructed with OES survey data collected prior to 1983. The Bureau has developed a national industry-occupation matrix time series covering the 1983–95 period. The series is as consistent as possible with the occupational classification used in the 1994 matrix, which was the most current matrix available when the historical time series were developed.[3] The actual 1995 employment data used for purposes of the current evaluation were taken from that time series. The 1986 matrix, the first matrix in which all of the OES survey data came from surveys conducted after 1983, was used to develop the 1984 data. For this reason, the original 1984–95 published matrix data were not comparable to the actual 1984 and 1995 data published in the historical time series.

In order to reconcile the projected matrix with the historical time series for the purpose of the evaluation, simulated 1984–95 projections were created. To develop these projections, each employment cell coefficient (percent of industry employment accounted for by the occupation) in the 1984 matrix in the historical time series was multiplied by the 1984–95 percent change in that coefficient (change factor) in the original 1984 and 1995 matrices, and the resulting distribution of occupational employment by industry was then benchmarked to the projected industry employment in the original 1995 industry projections. In the resulting simulated projections for most occupations, the projected 1984–95 percent changes remained the same or were very close to the original projections, but the data were defined consistently with the historical time series. The employment of self-employed and unpaid family workers was taken directly from the original published 1984–95 projections, because the CPS data in 1984 were comparable to the CPS data in 1995, with some minor exceptions. Occupations in the historical matrix that did not appear in the original 1984–95 projections matrix were aggregated into the appropriate residuals; for example, loan interviewers were aggregated into the "all other clerical occupations" residual.

Once the data were prepared, the next task was to select the occupations for evaluation. Occupations were selected only if they met certain criteria. To begin with, all residual occupations were dropped from the evaluation, because occupations for which there were only aggregated data were not necessarily comparable, as indicated in the preceding paragraph. Of the remaining detailed occupations, only those for which the definition remained comparable over the projection period were included. Occupations also were dropped if examination of the historical time series indicated inconsistencies with logical expectations for the year-to-year total employment trend. Because occupations covered in the OES surveys changed over time as improvements in the quality of the survey were made, problems occurred in the development of comparable time series. In order to make the historical time series as consistent as possible with the 1994 matrix, a number of steps were taken to achieve uniformity over time.[4] For example, occupations appearing in an earlier matrix that were collapsed in the 1994 matrix were also collapsed in the time series. Finally, seven occupations were eliminated because the base-year numbers from the original 1984 published matrix were so different from those in the historical 1984 matrix, that they did not appear comparable. Consequently, additional occupations were eliminated because the difference in employment between the original 1984 published matrix and the 1984 historical matrix was too large, based on certain criteria.[5]

*Other data errors.* The discussion in the text of the article, as well as in this technical note, has focused on errors in individual projections that can be traced back to incorrectly anticipated changes in staffing patterns or incorrect industry projections. Also, comparability problems stemming from inconsistencies in the classification system over time were highlighted. However, it is important to bear in mind that other data problems exist and that differences in actual and pro-

jected employment levels are not always due to projection errors. Consequently, real employment trends in an occupation may not necessarily be measured by comparable surveys 10 years apart. And although survey data are generally considered reliable, sampling and response errors certainly had an impact on the data in both the initial and the terminal years of the projection period evaluated. □

## Footnote to the technical note

[1] Prior to 1990, NCES data were used for preschool teachers and kindergarten and elementary school teachers. However, in the 1990, 1992, and 1994 matrices, OES survey data were employed for these occupations, but the OES classification broke teachers up into elementary school teachers, on the one hand, and preschool and kindergarten teachers, on the other. Similar difficulties were encountered with higher education teachers. For these reasons, employment data for elementary school teachers and preschool and kindergarten teachers were rolled up in the historical time series, but dropped from the current evaluation.

[2] A comprehensive methodological statement outlining BLS data sources and procedures is published in *Employment Projections for 1995*.

[3] For more information on the methodology used to develop the projections, see the appendix to the series of articles under "Employment Outlook: 1994–2005," *Monthly Labor Review*, November 1995, pp. 85–87; and *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997).

[4] For a more comprehensive methodological statement, *The National Industry-Occupation Employment Matrix: 1983–1995 Time Series*, a technical note available from the Office of Employment Projections.

[5] Specifically, occupations were dropped if the original 1984 level of employment differed by more than 40,000, but less than 100,000, from the actual 1984 level in the historical matrix, and the percent difference in 1984 employment was more than 50 percent; or if the original 1984 level of employment differed by more than 100,000 from the actual 1984 level in the historical matrix, and the percent difference in 1984 employment was more than 30 percent.

**Errata**

In the article, "Employment trends in textiles and apparel, 1973–2005," *Monthly Labor Review,* August 1997, table 6 (page 33) is mislabeled. The title should be (correction in italics):

Table 6. Employment in the *apparel* industry: 1983, 1994, 2005

Also, in the table, the total for all occupations in 1983 is 1,163 (in thousands).

# Taking note of the paper industry

*Consumer participation in recycling, improvements in technology, increased consumption of paper products, and liberalization of international trade together have had an enormous influence on employment in paper-related industries*

Cynthia Engel

Paper is an indispensable component in the production, packaging, and delivery of a wide variety of products used daily by most Americans. For many it begins with breakfast. Most of us would be lost without our newspaper, coffee filters, napkins, cereal boxes, and milk and juice cartons. In some cases, our entire breakfast is baked, sold, reheated, and served in its original paperboard box.

Americans consume more paper than do the citizens of most countries. Compared with the 1994 world average of 97 pounds, the U.S. per capita consumption of paper is more than 700 pounds, approximately 2 pounds per person per day. Per capita consumption of paper products in the United States has grown 43 percent since 1980.[1]

Steady increases in paper consumption have had divergent impacts on employment in manufacturing production, in wholesale trade distribution, and in recycling collection. Employment in paper manufacturing, which historically has been volatile, has fluctuated less in recent years. Employment gains have been elusive, however, and 16,000 jobs have been lost, on net, since 1990.[2] At the same time, employment in recycling collection and paper distribution reflects a steady and increasing rate of growth. Increases in these jobs in recent history have far outweighed employment declines in paper manufacturing.

Employment is driven in part by changing regulations and consumer demands. New government regulations and an environmentally conscious population have required industry to use more recycled waste and to produce fewer contaminants in production. These changes have led to costly, but necessary, investments in new equipment. Improvements have been implemented with state-of-the-art technology, resulting in less labor-intensive employment. While increased productivity within paper manufacturing has allowed output to grow even in times when employment has not, recycling and exports have buoyed employment in the paper-related industries.

This article examines the changing market for paper, including the demand for recycled products and exports, and its effect on employment trends.

## Types of paper

Paper manufacturers produce both paper and paperboard products. The designation "paper industry" generally refers to the production of both products. Paperboard is used to make items for the packaging of products, such as cardboard boxes, shipping containers for produce, and appliance containers. "Paper" may also identify the subgroup of products that excludes paperboard, such as newspaper, catalog paper, bond paper, tissue paper, and computer paper. In this article, the term will be used to identify the broader group, including both paper and paperboard products.

Paper products are classified according to content. Products with recycled content contain various amounts of recycled paper, with the balance

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made up of mill scraps, which often include virgin fiber. Other paper products contain only virgin fiber. To extract the cellulose, which makes up less than half of wood fiber,[3] lignin and other substances are removed. The remaining cellulose is then bleached, beaten, and rinsed, resulting in a pulp to be used for papermaking.

Recycling plants must purchase wastepaper rather than wood, repulp the fiber, and feed the pulp into an ink removal system. At this point, both virgin and recovered pulp go through the same processes.[4] The labor requirements for producing recycled fiber are similar to those for producing virgin fiber, although total costs of recycling are approximately 20 percent less.[5] Production using recycled paper takes less energy than production using virgin paper.[6]

The profitability of recycled products has caused some companies to replace pulp mills with deinking plants and to expand their use of recovered paper in existing mills. Companies are increasing domestic recycling capacity, as worldwide demand for recovered paper is expected to rise to 150 million tons by the year 2000, up from 110 million tons in 1993.[7]

## Where the jobs are

Paper-related employment is scattered among several industry categories. The largest block of workers is involved in the manufacture of paper and allied products,[8] which employs 681,000, down slightly from its peak employment of 697,000 in 1990. The second-largest category of paper-related employment is in the paper and paper products component of wholesale trade, where 259,000 are employed in the distribution of paper products. Not included in the 259,000 are another 130,000 jobs in recycling activities undertaken by scrap material brokers and dealers, also found in wholesale trade. While a significant portion of these jobs are directly tied to paper recycling, others support metal or other material recycling. Scrap material brokers contract with those who actually collect wastepaper; these companies are primarily found in the refuse component of sanitary services ( some portion of 156,000 jobs). This list does not exhaust all the remaining jobs that are hidden among the various categories of the Standard Industrial Classification structure: those employed in government transportation services, and those who produce the new equipment, chemicals, and processes to be used in the mills. However, when adding up an abbreviated list of categories, we find well over 1 million jobs supporting the consumption and production of paper in the United States.

## Employment trends vary widely

*Paper manufacturing.* Employment has exhibited significant volatility in paper manufacturing over the last 20 years, with less fluctuation occurring recently. The growth in global markets, combined with production processes that require less human intervention, have contributed to greater stability in employment. Furthermore, the growth of exports has diversified the customer base of paper manufacturers.

As the following tabulation shows, recession-related reductions in the monthly industrial production index and employment in paper manufacturing reveal that recessions have become far less austere over the last two decades:

| | *Percent change in* | |
|---|---|---|
| *Recession* | *Industrial production* | *Employment* |
| 1973–75 | –24 | –12 |
| 1980 | –6 | –4 |
| 1981–82 | –9 | –6 |
| 1990–91 | 2 | –2 |

In the 1973–75 recession, the industrial production index for paper dropped by 24 percent as employment dropped 12 percent, with employment losses regained by 1978. Subsequent recessions do not come close to the severity of this decline. Over the combined recessionary period in the early 1980s, production dropped by 8 percent, while employment fell by 7 percent. Employment recovered much more slowly than in the 1975 recession, taking twice as long to reach prerecession levels. In the 1990–91 recession, the production index increased, as export tonnage grew by 8 percent and employment fell by 2 percent. Fortunately, exports bolstered demand for producers, providing some protection from more dramatic losses.

Although production continues to follow the cyclical pattern of the economy, its vulnerability to domestic recession has been greatly reduced, and with this reduced vulnerability, employment has stabilized. (The declining nature of employment losses during recessions is shown in table 1.) Furthermore, as increasing amounts of capital are substituted for labor, employment declines in the current climate are not associated with reductions in demand.

While recessionary job losses occurred in paper and pulp mills, they were small compared with secular losses posted between 1990 and 1996. Postrecession losses did not reflect a reduction in demand; rather, they reflected technological improvements in the papermaking operation. Between the prerecession peak in 1990 and December of 1996, production increased by 12.6 percent, while employment declined by 1 percent. As computerization became more integral to production operations, mills became more capital-intensive and used less labor.

While manufacturing employment is declining overall, exports are adding jobs in paperboard containers and boxes, as exports of paperboard increased dramatically between 1990 and 1996. Employment also is increasing in wholesale trade and in sanitary services, outweighing losses in paper manufacturing. Employment trends in paper manufacturing have been more affected than those in other paper-related indus-

**Table 1. Recession peaks and troughs in employment in paper manufacturing and related industries, 1973–96**

[Numbers in thousands]

| Industry | Standard Industrial Classification | Peak, March 1974 | Trough, May 1975 | Change | Peak, December 1979 | Trough, July 1990 | Change |
|---|---|---|---|---|---|---|---|
| Paper manufacturing | 26 | 706 | 619 | –87 | 698 | 673 | –25 |
| Pulp mills | 261 | 15 | 13 | –2 | 17 | 17 | 0 |
| Paper mills | 262 | 188 | 173 | –15 | 181 | 177 | –4 |
| Paperboard mills | 263 | 66 | 59 | –7 | 66 | 64 | –2 |
| Paperboard containers | 265 | 226 | 189 | –37 | 212 | 200 | –12 |
| Miscellaneous converted paper | 267 | 212 | 187 | –25 | 223 | 215 | –8 |
| Paper distribution | 511 | 116 | 115 | –1 | 149 | 151 | 2 |
| Scrap material distribution | 5093 | | – | – | – | – | – |
| Sanitary services | 495 | 39 | 39 | 0 | 49 | 50 | 1 |

| | Standard Industrial Classsification | Peak, September 1981 | Trough, December 1982 | Change | Peak June 1990 | Trough, June 1991 | Change |
|---|---|---|---|---|---|---|---|
| Paper manufacturing | 26 | 686 | 647 | –39 | 698 | 685 | –13 |
| Pulp mills | 261 | 17 | 15 | –2 | 14 | 14 | 0 |
| Paper mills | 262 | 181 | 176 | –5 | 180 | 180 | 0 |
| Paperboard mills | 263 | 64 | 60 | –4 | 52 | 51 | –1 |
| Paperboard containers | 265 | 202 | 188 | –14 | 210 | 206 | –4 |
| Miscellaneous converted paper | 267 | 222 | 209 | –13 | 242 | 235 | –7 |
| Paper distribution | 511 | 155 | 159 | 4 | 241 | 240 | –1 |
| Scrap material distribution | 5093 | – | 77 | – | 111 | 110 | –1 |
| Sanitary services | 495 | 52 | 53 | 1 | 114 | 122 | 8 |

| | Standard Industrial Classification | Trough, June 1991 | December 1996 | Change |
|---|---|---|---|---|
| Paper manufacturing | 26 | 685 | 679 | –6 |
| Pulp mills | 261 | 14 | 12 | –2 |
| Paper mills | 262 | 180 | 160 | –20 |
| Paperboard mills | 263 | 51 | 49 | –2 |
| Paperboard containers | 265 | 206 | 218 | 12 |
| Miscellaneous converted paper | 267 | 235 | 240 | 5 |
| Paper distribution | 511 | 240 | 261 | 21 |
| Scrap material distribution | 5093 | 110 | 129 | 19 |
| Sanitary services | 495 | 122 | 156 | 34 |

NOTE: Data are based on monthly, seasonally adjusted employment estimates, except in the cases of pulp mills and scrap material, in which employment does not display measurable seasonality. The peak and trough months used in this table are those specific to the paper manufacturing industry but related to official recessions.
Dash indicates data not available.

tries by changes in production methods and technology. In the other industries, jobs have increased steadily due to increases in recyclable consumption and in demand for paper products at retail outlets.

*Paper-related wholesale trade.* Unlike those in paper manufacturing, job levels in paper distribution have followed a relatively steady growth pattern. Employment in this category rose by 136 percent between 1972 and 1996, averaging annual growth of 6 percent. (See chart 1.) Since the last recession, employment grew by 9 percent in paper distribution, compared with 8 percent in wholesale trade, and 21,000 jobs were added between 1991 and 1996. Most of the growth occurred in the subcomponent, stationery and office supplies, which distributes computer paper, envelopes, business forms, and related supplies to an increasingly dispersed population.

Reflecting increased demand for recycled paper are jobs within the *scrap materials* subcomponent of wholesale trade.[9] Employment by establishments categorized under scrap and waste materials increased by 11 percent in 1995 as wastepaper prices soared, and maintained this gain in the weaker paper market of 1996. Between 1991 and 1996, employment rose a moderate 20 percent. (See chart 2.)

*Sanitary services.* Companies involved in the actual collection of scrap materials fall within the sanitary services industry. As recovery of recyclable materials has grown, so has employment in privately owned sanitary services collection. (Data are not available on employment in government-owned sanitary services, nor are specific data available on private sanitary service workers who are involved in paper recovery.) Employment growth was extremely rapid in the mid-80s, just as use of recycled paper became popular and was deemed a revenue-builder. Another growth spurt occurred between 1993 and 1995, when collection efforts were intensifying. The number of material recovery facilities (MRF) increased from 104 in

**Chart 1.** Employment in paper manufacturing and distribution, 1972–96

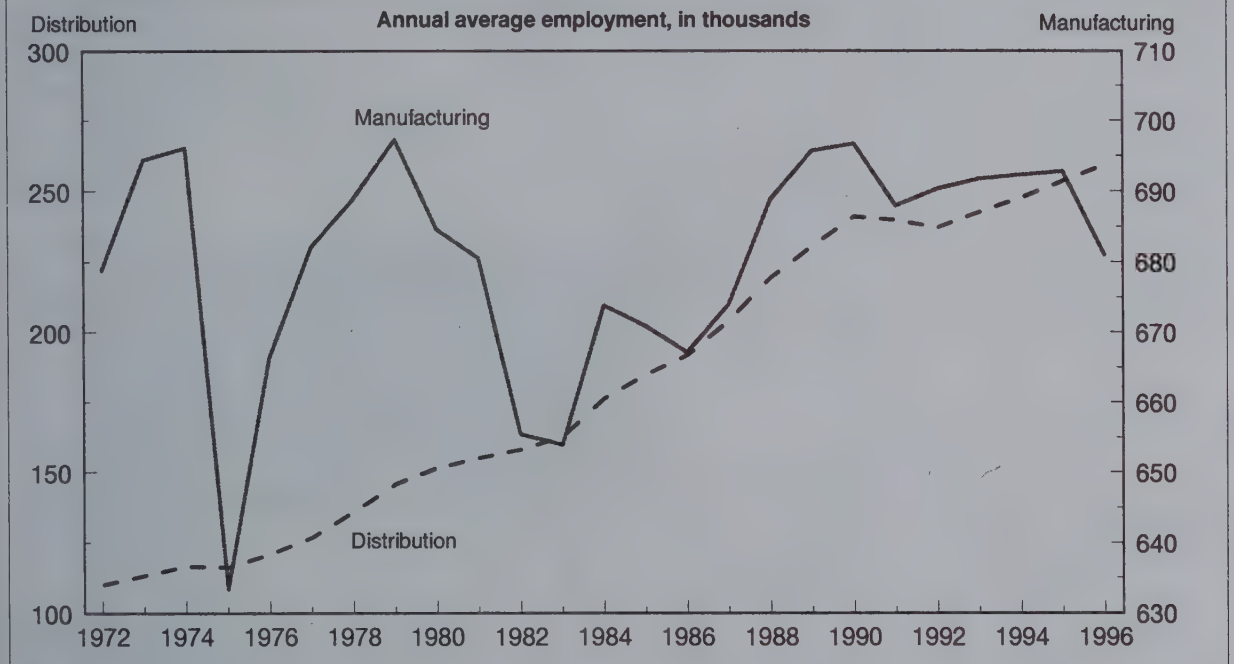
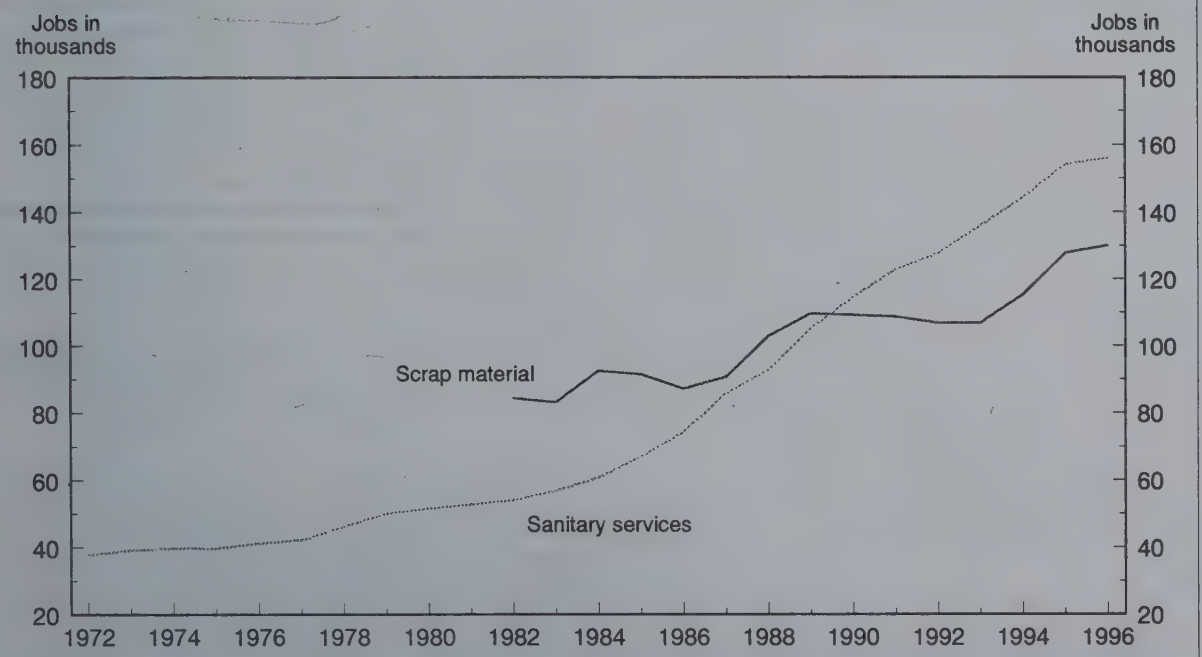



**Chart 2.** Employment in privately owned sanitary services and scrap material distribution, annual averages, 1972–96



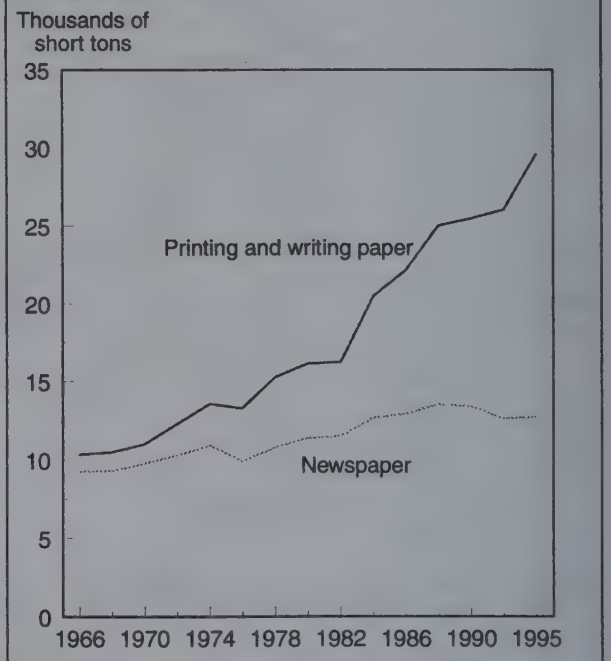
1991 to 386 in 1995.[10] Thirty-seven new projects are being planned for 1996–98, although they are smaller in size.[11] Because recycling facilities handle a variety of recyclable materials, the employment impact of paper recycling, as opposed to metal or plastic recycling, is unknown.

While material recovery facilities originally were concentrated in the Northeast, increasing paper demands have resulted in a nearly even distribution of these processing centers throughout the country.[12] Consequently, hiring is no longer restricted to urban environments. Municipal governments throughout the country are experiencing increased demands for haulers and sorters, especially as public ownership of processing facilities has increased since 1995.[13] Networks to collect, sort, and resell paper are continuing to expand.

## Factors behind employment trends

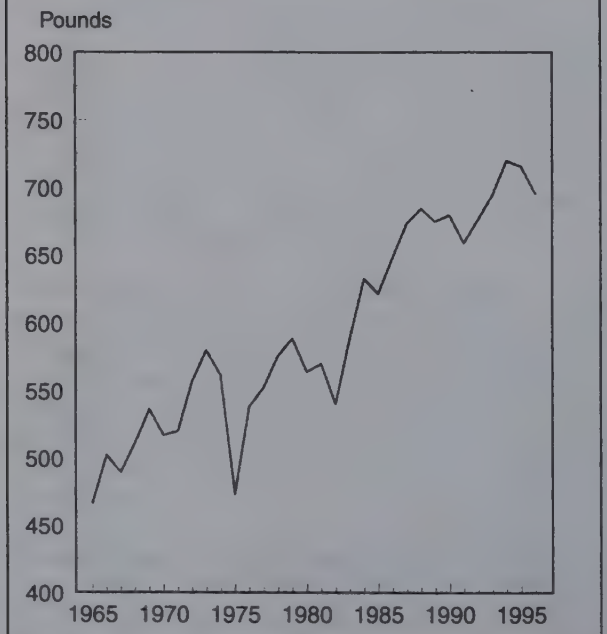
As we have seen, employment growth in paper manufacturing is cyclical, and has failed to return to previous peaks during recent recoveries. In contrast, the numbers of jobs in the other paper-related industries have grown in recent years. This section explores some factors behind these differing trends—the increasing demand for paper products in general, and for those with recycled content in particular, and productivity gains from new equipment installed, in part, to use wastepaper instead of wood and to meet new environmental standards.

**Chart 4. Trends in the consumption of paper, 1966–95**




SOURCE: American Forest and Paper Association.

**Chart 3. Per capita consumption of paper, 1965–96**




SOURCE: American Forest and Paper Association.

Changes in domestic demand for paper are primarily tied to changes in population and income growth. Increases in U.S. population and income were particularly strong between 1940 and 1970, followed by growth that was more subdued. While real economic growth has slowed, the information industry has transformed both our home and work lives, also stimulating greater per capita consumption of paper.

Growth in per capita consumption of paper has been averaging 2 percent a year over the last decade, with reductions in consumption coinciding with recessionary periods. (See chart 3.) Per capita consumption hit its peak in 1994, at 734.5 pounds, nearly 100 pounds more than in 1985. Consumption fell in 1995 and through 1996, as higher paper prices encouraged more efficient use. Between 1966 and 1996, consumption of paper (excluding paperboard) almost doubled.[14]

*Growth linked to computers.* Contrary to speculation that computers would transform the American workplace into a paperless environment, the opposite result has occurred. The increased availability of photocopiers, fax machines, and computers has resulted in a dramatic increase in the use of "office paper" over the last two decades. (See chart 4.) While the U.S. population grew 16 percent from 1972 to 1987, copier paper waste increased by 150 percent and other office paper waste by 87 percent.[15] This growing use is correlated with

tremendous growth in production output of printing and writing paper, the type of paper that is used in printers and fax machines. Since 1982, production of printing and writing paper has increased by 60 percent. While the use of electronic mail has displaced some paper usage, conventional wisdom among paper industry forecasters is that "for every ton of paper displaced by computers, there is more than one ton of new demand generated."[16]

*Newspaper and book sales.* While much of the growth in paper consumption is generated in the business sector, such as in direct-mail advertising, households also are large consumers, and many products are used by both home and office. Newspapers are a large consumption item for both, accounting for about 25 percent of all paper consumed in the United States (excluding paperboard).[17] Despite the growing popularity of the Internet, 1995 readership of daily newspapers outpaced levels recorded in the 1989–94 period, following a period of decline between 1970 and 1989.[18] The percent of American adults reading a Sunday newspaper also posted a record high in 1995, compared with the 1970–94 period. Clearly, newspapers are a popular medium, and newspaper advertising is more popular than any other form of advertising. Newspapers received 22.4 percent of all advertising dollars in 1995—more than broadcast TV and direct mail, with print-related advertising dominating over other media.[19]

Not only is newspaper circulation healthy, but book sales also are holding their own. Adults purchased 1 billion books in 1995, compared with 776 million in 1991, with most of the increase occurring between 1991 and 1994.[20] While most Americans report reading less, book sales have continued to grow. The Internet may be a substitute for some printed media, but its use also has encouraged sales, with books representing the commodity most frequently sold on the web after computer software. Not surprisingly, computer-related books are an increasing share of total sales, accounting for an additional 13 million books sold between 1991 and 1995.[21]

Furthermore, an increasing standard of living is associated with greater paper usage, as consumption of most products involves some paper content in packaging, labeling, and advertising. Increased consumption is not limited to our borders; as economies develop abroad, worldwide consumption of paper has increased.

*A growing foreign market.* The market for paper is growing throughout the world, causing U.S. paper exports to more than double between 1985 and 1996.[22] Growth in exports of recovered paper and printing and writing papers has been especially healthy.[23] Exports, in dollars, rose from 6 billion in 1991 to 10 billion in 1996, as tonnage increased by 45 percent. (See table 2.) This burgeoning demand has insulated paper industry workers from further layoffs.

Much of U.S. trade is with our partners in the North American Free Trade Agreement (NAFTA); 39 to 45 percent of our exports are sent to Canada and Mexico.[24] In 1994, the first full year after implementation of NAFTA, U.S. paper exports to those two countries increased by a combined 15.5 percent, on a tonnage basis. Exports to Mexico increased 33 percent between 1993 and 1996, and those to Canada, by 50 percent.[25] However, despite this rapid growth, the share of all paper exports sent to our NAFTA partners has remained relatively stable due to increased demand from other trading partners. Exports to the emerging markets—which are among the fastest growing economies—more than doubled between 1991 and 1996, and represented 8.4 percent of the total market for U.S. producers in 1996, nearly equal to paper exports to Japan. (See table 3.)

Exports that are correlated with economic growth abroad have stimulated expansion of the U.S. paper industry. More than 50 percent of the industry's growth between 1989 and 1995 was due to this factor.[26] Between 1990 and 1996, an average 11 percent of production was devoted to exports, compared with 6 percent in 1985. According to the American Forest and Paper Association, about 16 percent of total U.S. production went overseas in 1995, and approximately 42 percent of new capacity in the industry made products for export mar-

**Table 2. Percent distribution of paper and paperboard exports to major markets, 1991–96**

Percent of total exports]

| Market | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|
| Canada | 25.9 | 26.0 | 27.2 | 26.8 | 26.1 | 26.8 |
| Mexico | 13.2 | 15.7 | 16.6 | 17.8 | 13.2 | 17.8 |
| Subtotal | 39.1 | 41.6 | 43.8 | 44.6 | 39.3 | 44.6 |
| Japan | 8.5 | 8.4 | 9.2 | 8.8 | 9.4 | 8.4 |
| Rest of world | 52.4 | 49.9 | 47.0 | 46.6 | 51.3 | 47.0 |
| Total exports, in thousands of dollars | $6,142,297 | $6,525,643 | $6,683,162 | $7,711,798 | $9,888,199 | $10,233,752 |

SOURCE: U.S. Department of Commerce.

**Table 3. Exports of paper and paperboard to emerging markets, 1991–96**

[Thousands of dollars]

| Market | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|
| Total ..... | $377,280 | $403,122 | $382,598 | $529,568 | $842,337 | $898,977 |
| Korea ..... | 148,791 | 150,638 | 115,153 | 154,155 | 242,379 | 248,483 |
| Taiwan .... | 122,370 | 131,812 | 129,538 | 191,931 | 236,490 | 16,163 |
| Brazil ..... | 55,679 | 64,265 | 70,416 | 105,266 | 197,137 | 245,409 |
| Chile ..... | 40,767 | 40,966 | 43,436 | 55,812 | 99,576 | 101,857 |
| Turkey ..... | 6,126 | 5,611 | 12,154 | 9,208 | 42,946 | 41,475 |
| India ..... | 3,547 | 9,830 | 11,901 | 13,196 | 23,809 | 45,590 |

SOURCE: U.S. Department of Commerce.

kets.[27] Growth in exports has increased profits significantly for producers in the last couple of years, allowing them to pay down debt on extensive capital investments made in the late 80s and early 90s. New trade agreements are expected to further increase exports to other countries over the next decade.[28]

The factors explored thus far have addressed the demand for all types of paper products. However, undercurrents of a very different type also resulted in profound changes in the industry over last few decades: the demand that paper products be made, at least in part, with recycled materials was growing at the same time that the supply of wastepaper was exploding. Further, there became available new technology that reduced the cost of manufacturing from wastepaper below the cost of a wood-based process for many products. These developments set the stage for job growth in the collection and brokerage of wastepaper.

*Recycling—a grassroots movement.* Support for recycling arose from citizens' firm refusals to increase landfill space to contain waste. Environmentalists and waste managers recognized that the major source of landfill waste was paper products,[29] and pressured industry and government to support recycling. While industry had recognized recycled paper as a market niche, increasing demands by the public, coupled with the prospect of greater profits, ensured expansion of this new market.

As technology within paper plants was being replaced to meet cleaner air requirements, the quality of recycled paper products also was being improved, contributing to consumer acceptance of recycled goods. Manufacturers developed processes to incorporate more recycled content in paper while retaining its quality, almost doubling their use of recovered paper between 1985 and 1995.[30] Perhaps unnoticed by end-users, consumption of recycled products has soared. Use of recycled paperboard[31] is a prime example, having grown 40 percent since 1990 and accounting for 13 percent of paperboard consumption in 1995. Consumption of recycled products also has increased through private sector initiatives and alliances with nonprofit groups.[32] Government agencies are expanding their consumption of recycled products as well.

At every level of government, initiatives have increased the purchase of recycled paper. In 1986, only 13 States and few local governments had any "buy-recycled" policy. Currently, all 50 States, the District of Columbia, and more than 200 local governments have recycling initiatives in place. Most common are general policies favoring recycled products, set-asides or goals, or a stated price preference for recycled products. There are a few "recycled-only" programs.[33] At the Federal level, the President signed an executive order in 1993 requiring agencies to use recycled products, although minimum requirements on recycled content have been eased for some products. This directed consumption will continue to fuel more investments in research and development to further increase the quality of recycled products.

A larger, more reliable supply of materials also encourages manufacturers to incorporate recycled paper in production. While manufacturers routinely recycle waste from papermaking processes, consumers are more involved in supplying waste paper, driving the affordability of recycling systems. The incidence of paper recovery is rising, with an all-time high of 44.8 percent collected in 1996 and expectations of increasing recovery rates in the future.[34] According to an annual *BioCycle* survey,[35] the number of curbside recycling programs increased from about 1,000 in 1988 to 7,265 in 1994, serving about 41 percent of the population in the latter year.

**Table 4. Paper manufacturing machines installed or rebuilt as a percent of 1995 capital stock, versus capital expenditures by paper and paperboard mills, 1983–95**

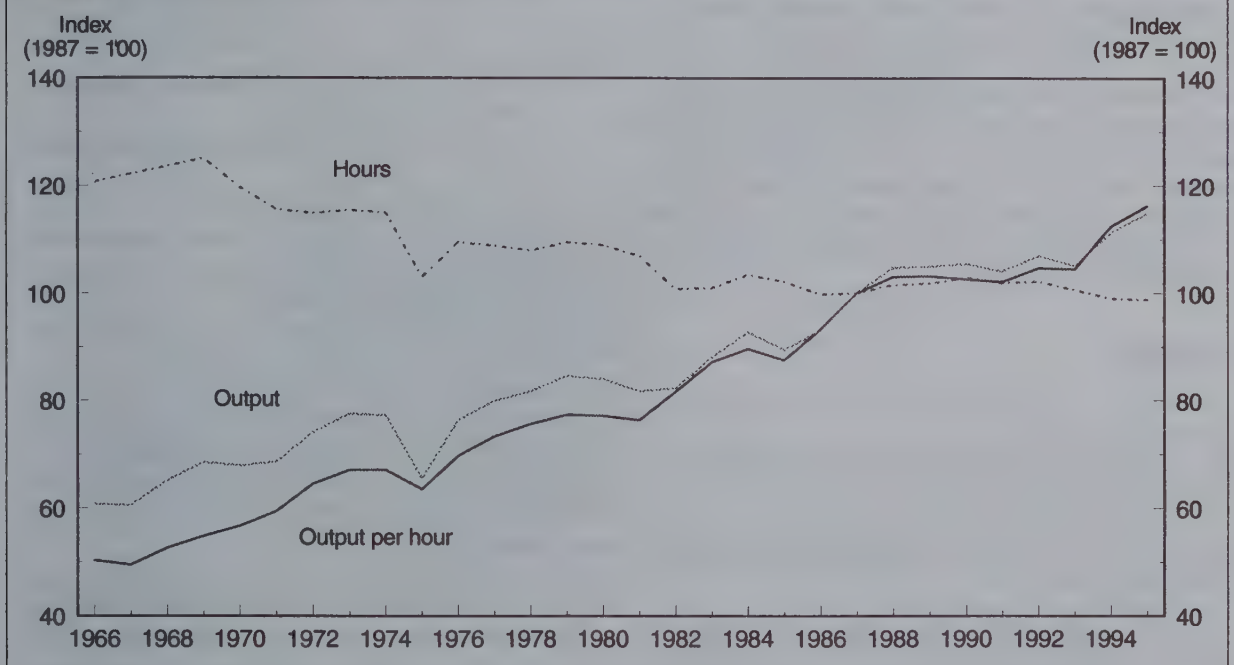
| Year | Total machines installed or rebuilt (percent) | Recycling machines installed or rebuilt (percent) | Expenditures for environmental protection at mills (millions of dollars) | Expenditures on new plant and equipment (millions of dollars) |
|---|---|---|---|---|
| 1995 .... | 25 | 9 | $619[1] | – |
| 1994 .... | 26 | 8 | 721 | $7,312 |
| 1993 .... | 18 | 5 | 737 | 7,950 |
| 1992 .... | 27 | 11 | 1,048 | 7,950 |
| 1991 .... | 36 | 3 | 1,343 | 9,009 |
| 1990 .... | 55 | 7 | 1,292 | 10,809 |
| 1989 .... | 49 | 9 | 1,039 | 10,067 |
| 1988 .... | 56 | 3 | 572 | 7,211 |
| 1987 .... | 31 | 4 | 403 | 5,753 |
| 1986 .... | 43 | 3 | 237 | 6,084 |
| 1985 .... | 38 | 4 | 342 | 6,273 |
| 1984 .... | 24 | 3 | 226 | 5,302 |
| 1983 .... | 20 | 3 | 327 | 4,987 |

[1] Data are preliminary.

NOTE: Dash indicates data not available.

SOURCE: Sample of the American Forest and Paper Association. Expenditure data are from the Census Bureau and from the National Council of the Paper Industry for Air and Stream Improvement.

**Chart 5. Indexes of output and hours in pulp, paper, and paperboard mills, 1966–95**




NOTE: Reflects the mills that manufacture the raw input for paper items produced by other components of paper manufacturing.

*New equipment and productivity.* The growth in the demand for paper has led to large gains in output and has prevented steep job losses in manufacturing following the introduction of less labor-intensive equipment. Expenditures on new plant and equipment by establishments involved in the manufacture of paper products peaked in 1990 and remain higher than expenditures in the 1980s, as capital improvements have increased over the last decade. (See table 4.) Measured in real terms, average dollar expenditures for new capital in the period 1989–94 also are slightly higher than in the prior 5-year period, with 1989 and 1990 standing out as the strongest years for new investments. Although the number of machines installed or rebuilt has been declining since 1988, there has been new growth in recycling equipment.[36] Because recycling mills can be installed on a smaller scale and at a lower capital cost per ton of output than can virgin pulp mills, these facilities could better support incremental expansions in the industry, especially following a period of capital stock replenishment.[37] Demands for a cleaner environment also have contributed to more rapid replacement of equipment in the industry, likely improving productive efficiency.

The increased use of recycling equipment also carries productive efficiencies, compared with the use of wood fiber. Most grades of recycled paper appear to use less energy in production and produce less air pollution, although some grades require more purchased electricity.[38] According to one study, recycling 1 ton of materials in a typical curbside recycling program can save at least $183 worth of electricity, after deducting the cost of transportation to collect the materials.[39] Many types of paper are produced less expensively using recycled content, while most use some virgin fiber.[40]

Furthermore, using recovered paper can provide more flexibility in production. Imbalances in the supply of wood pulp are easily corrected for if manufacturers have the ability to substitute recovered paper. While recovered paper has a limited number of "lives" and is used in small quantities in most products, it can be recycled 5 to 8 times. As a result, manufacturers are using more of this resource. Use of recycled paper is forecast to increase as mill capacity for recovered pulp more than doubles between 1994 and 1998.[41] Lower energy costs, lower raw material costs, and lower labor costs per ton of output have resulted in a more efficient industry.

An increasing amount of output was produced in mills, with hours worked declining, between 1966 and 1995. (See chart 5.) Thus, labor productivity, as measured by output per hour, more than doubled over this period; the gains were not steady, but followed business cycle movements. Productivity gains over the period in pulp, paper, and paperboard mills were

greater, on average (4.5 percent per year), than in paper industry components that used the output of these mills (folding paperboard boxes, 2.6 percent; corrugated solid fiber boxes, 3.8 percent; paper and plastic bags, 1.2 percent).

THE CONFLUENCE OF CONSUMER PARTICIPATION in recycling, improvements in technology, increased consumption of paper products, and liberalization of trade have had an enormous influence on employment in paper-related industries. Technological changes, while costly, have facilitated increased output of recycled products as improvements in efficiency and output quality are attained. □

## Footnotes

[1] "1996 Statistics. Data through 1995" (American Forest and Paper Association, November 1996), p. 2.

[2] Employment data are from the Current Employment Statistics survey and appear in various issues of *Employment, Hours, and Earnings.* Data are expressed in annual averages unless otherwise noted.

[3] See *Paper Task Force Report* (at p. 172), a voluntary, private-sector initiative sponsored by the Environmental Defense Fund, which developed recommendations for purchasing paper that reduce environmental impact while meeting business needs.

[4] American Museum of Papermaking.

[5] *Technology and Labor in Pulp, Paper, Paperboard, and Selected Converted Industries*, Bulletin 2443 (Bureau of Labor Statistics, June 1994), p. 3.

[6] Using recycled newspapers from an average residential recycling program saved 11.4 million BTU per ton of material compared to using virgin materials, according to *The Role of Recycling in Integrated Solid Waste Management to the Year 2000* (Stamford, CT, Franklin Associates, Ltd. for Keep America Beautiful, Inc., September 1994), pp. 6–12, appendix I–49.

[7] "What's the Outlook for Paper?" *Biocycle,* June 96, pp. 78–80.

[8] SIC 261 manufactures pulp, SIC 262 manufactures paper, and SIC 263 produces paperboard. SIC 265 produces paperboard containers and boxes from purchased paperboard. SIC 267 produces various forms of converted paper products, such as sanitary paper products, paper and plastic bags, coated laminated paper, and others, from purchased paper and paperboard.

[9] Recycling is a large component of SIC 5093, but this category includes metals and minerals as well as other scrap materials.

[10] "MRF Growth was substantial in 1995," *World Wastes,* February 1996, p.6

[11] "Materials recovery facilities: A 1996 Update," *Biocycle,* August 1996, pp. 83–84

[12] *Ibid.*, p. 83.

[13] *Ibid.*, p. 84.

[14] "1996 Statistics. Data through 1995"; and monthly statistical summaries of the American Forest and Paper Association.

[15] *Source Reduction. It's a Bare Necessity,* (North Carolina Recycling Association and North Carolina Office of Waste Reduction, 1995), p. 46.

[16] *RISI Long-Term Pulp and Paper Review* (Bedford, MA, Resource Information Systems, Inc., July 1995), p. 52.

[17] According to "1996 Statistics," production of newsprint is also growing. In 1980, we produced approximately 40 percent of newsprint consumed, while today we are producing over one-half.

[18] More efficient use of paper by publishers may explain growing circulation coincident to reductions in the tonnage of newsprint consumed.

[19] According to data compiled by McCann-Erickson, a prominent research and information consulting firm in the advertising industry, the print-related share of advertising expenditures has ranged from 56.5 percent in 1980 to 57.2 percent in 1994.

[20] " In so Many Words; How Technology Reshapes the Reading Habit," *American Demographics,* March 1997. □

[21] *Ibid.*

[22] "1996 Statistics, " p. 2; and U.S. Department of Commerce, *National Trade Data Bank.*

[23] "Global Growth in U.S. Pulp and Paper Exports," *American Papermaker*, June 1995; and "1995 Statistics," p. 81.

[24] "'95 another banner year for exports," *Journal of Commerce Special Report* , Mar. 11, 1996.

[25] Measured by product value, not tons. Data are from U.S. Department of Commerce, *National Trade Data Bank.*

[26] "Exports Fuel Paper Firms' Sales," *Investors Business Daily*, Mar. 15, 1995, p. A3.

[27] "Global Growth in U.S. Pulp and Paper Exports," *American Papermaker,* June 1995, pp. 43–49.

[28] Market barriers should be gradually reduced over this period as the result of the General Agreement on Tariffs and Trade (most recently, the Uruguay Round), NAFTA, , and the USA-Japan Paper Agreement.

[29] According to the U.S. Environmental Protection Agency, paper and paper products accounted for 37.6 percent of landfill waste in 1993.

[30] See the 1995 and 1996 data summaries of the American Forest and Paper Association, p. 57.

[31] The most important uses for recycled paperboard are folding cartons, corrugated containers, paper tubes, wallboard facings, book covers and binders, and insulation board. See "Recycled paperboard: market pricing reacts to weaker demand and lower wastepaper costs," *Pulp and Paper,* vol. 70, no. 6, p. 13.

[32] The Environmental Defense Fund developed a task force including institutions such as Duke University, Johnson & Johnson, NationsBank Corporation, McDonald's, the Prudential Insurance Co., and Time, Inc., which together purchase more than $1 billion in printing and writing papers and share the common goal of finding ways to use environmentally preferable paper.

[33] "Buying Recycled: Investing Dollars to Close the Loop," *World Wastes*, January 1994, p. 38.

[34] "Banner Year for Paper Recovery at U.S. Mills," *Biocycle*, August 1997, p.11.

[35] Published since 1960, *Biocycle* is a prominent magazine on composting and recycling.

[36] "1995 Statistics. Data through 1994" (American Forest and Paper Association, September 1995), p. 66

[37] *Paper Task Force Report.*

[38] *Paper Task Force Report*, table A-1–A-5. Most grades show a significant savings in energy used in production compared to virgin manufacturing processes.

[39] According to "Advantage Recycle: Assessing the Full Costs and Benefits of Curbside Recycling," a report by the Environmental Defense Fund, 31 percent of the savings was attributable to newspaper versus other recyclable products.

[40] See *Paper Task Force Report*, ch. 3, p. 68. Refers to linerboard, corrugating medium, newsprint, specialty uncoated printing and writing paper, among others. However, unsorted office paper is an example of one type which is more costly to produce using recycled pulp.

[41] "What's the Outlook for Paper?" *Biocycle,* June 1996, vol. 37, no. 6, pp. 78–80.

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# Developments in women's labor force participation

*During the early 1990's, there was no growth in women's labor force participation rates; since 1994 however, the rate has edged upward, with mothers accounting for most of the rise*

Howard V. Hayghe

The increase in the proportion of women who are working or looking for work that began shortly after World War II has been one of the most significant social and economic trends in modern U.S. history. By the 1980's, there were signs that the rise was beginning to slow and, during the early 1990's, no increase in the proportion of women in the labor force (women's labor force participation rate) took place. Beginning in 1994, however, growth appears to have resumed.

A number of factors influenced the slowdown in women's labor force participation rate growth. These include a decline in participation among women under age 25, and a long-term slowdown in participation growth among women in the prime working-age group.[1] The rise in women's labor force participation rate came to a virtual halt as these factors combined with the 1990–91 recession, which had the greatest effect on women's employment of any recession over the last 30 years,[2] and an uncharacteristically slow employment recovery that continued through the early part of 1993 before gaining momentum.

This article traces the developments in women's labor force participation since 1975. The first section, a brief overview, is followed by a discussion of the trends for women with children, and then a discussion of the trends for women of different ages. The last section summarizes the findings.

The data presented in this article are based largely on information collected in March by the Current Population Survey (CPS),[3] supplemented by recently developed quarterly averages based on information collected monthly by the CPS.[4] It is important to note that recent changes to the survey have affected the historical continuity of these data. For about 25 years—until 1994—the basic questions in this survey relating to employment status had remained essentially the same.[5] As the result of a major, 8-year-long overhaul, a new survey questionnaire was developed and introduced in January 1994.[6] Among the changes were questions on employment that were designed to better capture part-time or irregular work, and unpaid work in a family-owned business or farm. Such activities may not have been fully measured, especially among women, by the previous questionnaire. While the revised questionnaire improved the accuracy of many labor force measures, comparability of data across time was interrupted, making analysis of changes in labor force participation between 1993 and 1994 problematic.[7]

## Overview

From March 1975 to March 1996, the labor force participation rate of women rose from 46 percent to nearly 59 percent (table 1). Although it rose without interruption through 1990, the increase did not proceed at a steady pace; rather the rate of increase slowed gradually over time. Between 1975 and 1980, women's labor force participation rate increased an average of 1 percentage point per year; from 1980 to 1985, the average annual gain fell to 0.7 percentage point.

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**Table 1. Population, labor force, and labor force participation rates of women aged 16 years and older by presence and age of own children, selected years, March 1975–96**

[Numbers in thousands]

| Presence and age of own children and labor force status | March of— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
| Total women: | | | | | | | | | | |
| Population | 79,453 | 87,939 | 93,455 | 98,152 | 98,970 | 99,783 | 100,654 | 102,181 | 103,128 | 104,058 |
| Labor force | 36,496 | 44,934 | 50,891 | 56,138 | 56,373 | 57,244 | 57,558 | 59,646 | 60,538 | 61,229 |
| Labor force participation rate | 45.9 | 51.1 | 54.5 | 57.2 | 57.0 | 57.4 | 57.2 | 58.4 | 58.7 | 58.8 |
| With no children under 18: | | | | | | | | | | |
| Population | 48,856 | 56,483 | 61,160 | 64,890 | 65,424 | 65,925 | 66,207 | 66,808 | 67,714 | 68,864 |
| Labor force | 22,028 | 27,144 | 30,850 | 33,942 | 34,047 | 34,487 | 34,495 | 35,455 | 35,843 | 36,509 |
| Labor force participation rate | 45.1 | 48.1 | 50.4 | 52.3 | 52.0 | 52.3 | 52.1 | 53.1 | 52.9 | 53.0 |
| With children under 18: | | | | | | | | | | |
| Population | 30,597 | 31,456 | 32,295 | 33,262 | 33,546 | 33,859 | 34,448 | 35,373 | 35,413 | 35,194 |
| Labor force | 14,467 | 17,790 | 20,041 | 22,196 | 22,327 | 22,756 | 23,063 | 24,191 | 24,695 | 24,720 |
| Labor force participation rate | 47.3 | 56.6 | 62.1 | 66.7 | 66.6 | 67.2 | 67.0 | 68.4 | 69.7 | 70.2 |
| With children 6 to 17, none younger: | | | | | | | | | | |
| Population | 16,182 | 17,489 | 16,929 | 17,123 | 17,058 | 17,368 | 17,827 | 18,248 | 18,721 | 18,679 |
| Labor force | 8,875 | 11,252 | 11,826 | 12,799 | 12,691 | 13,183 | 13,441 | 13,863 | 14,300 | 14,427 |
| Labor force participation rate | 54.8 | 64.3 | 69.9 | 74.7 | 74.4 | 75.9 | 75.4 | 76.0 | 76.4 | 77.2 |
| With children under 6: | | | | | | | | | | |
| Population | 14,415 | 13,966 | 15,366 | 16,139 | 16,488 | 16,491 | 16,620 | 17,125 | 16,692 | 16,515 |
| Labor force | 5,592 | 6,538 | 8,215 | 9,397 | 9,636 | 9,573 | 9,621 | 10,328 | 10,395 | 10,293 |
| Labor force participation rate | 38.8 | 46.8 | 53.5 | 58.2 | 58.4 | 58.0 | 57.9 | 60.3 | 62.3 | 62.3 |

NOTE: Data beginning in 1994 are not strictly comparable with data for prior years because they incorporate the results of a major redesign of the Current Population Survey (CPS) and 1990 census-based population controls adjusted for the estimated undercount. See text footnote 3 for further information about the CPS.

Own children are defined as sons, daughters, adopted, or step-children. Excluded are grandchildren, nieces, nephews, other related children, and unrelated children.

During the next 5 years—1985 to 1990—the gain was slower still, averaging 0.5 percentage point per year.

Over the next 3 years (1990–93), however, the upward trend in women's overall labor force participation rate came to a virtual standstill. The rate fluctuated within a very narrow range, and was the same in March 1993 (57.2 percent) as it had been in March 1990.

Beginning in 1994, the upward trend in women's labor force participation rate appears to have resumed, as the rate edged up from 58.4 percent in March 1994 to 58.8 percent in March 1996. (As noted earlier, the introduction of major revisions into the CPS in 1994 precludes direct comparisons with data for 1993.) These gains appear to have continued into 1997 as well. The recently developed quarterly data series (which is quite close, though not strictly comparable, to the series based on March data) shows that the labor force participation rate of women reached 59.5 percent (not seasonally adjusted) in the first quarter of 1997 (table 2).

## Presence and age of children

Mothers accounted for most of the rise in women's overall labor force rate. The participation rate for mothers whose youngest child was school age (6 to 17 years old) rose 22 percentage points to 77 percent in 1996, and the rate for mothers of preschoolers posted a 24-point gain (rising to 62 percent). By contrast, the participation rate for women with no children under age 18 rose by only about 8 percentage points to reach 53 percent in March 1996. Part of the reason that the rise for this group was relatively small is that the majority (three-fifths) of the women with no children are under age 25 or are 55 years and older—age groups with relatively low participation rates that have changed little in recent years.

For all three groups, most of the gains occurred in the late 1970s and early 1980s; between 1990 and 1993, growth had virtually stopped. While growth did not resume after 1994 for the women with no children, the rate for those with children rose. For the mothers of school-age children the participation rate went from 76 percent in March 1994 to a little more than 77 percent 2 years later, while the rate for those with preschoolers went from 60 percent to a little more than 62 percent. And, as table 2 shows, labor force rate gains appear to have continued into 1997.

As shown in the following tabulation, the labor force participation rate for the mothers of very young children—children under 1 year of age—has grown in recent

years. (The apparent 1995–96 drop is not statistically significant.)

| *March of—* | *Participation rate* |
|---|---|
| 1990 | 49.5 |
| 1991 | 51.9 |
| 1992 | 52.2 |
| 1993 | 52.6 |
| 1994 | 54.6 |
| 1995 | 56.9 |
| 1996 | 55.4 |

This trend is an especially strong reflection of today's societal norms. Working for pay or profit, or "market work," is now an integral part of many women's lives, much as full-time homemaking was for women in previous generations. Undoubtedly, most of today's mothers with infants were already well established in the market place before they had their newest child. Many are therefore able to retain their jobs by taking a brief period of maternity leave, or, if they had left their job, are aided in their job search by their previous labor market experience.

**Table 2. Labor force status of women by presence and age of youngest child, first quarter averages, 1994–97, not seasonally adjusted**

[Nunbers in thousands]

| Presence and age of youngest child | Civilian non-institutional population | Civilian labor force | |
|---|---|---|---|
| | | Total | As percent of population |
| Total women: | | | |
| 1994 | 102,107 | 59,617 | 58.4 |
| 1995 | 103,067 | 60,380 | 58.6 |
| 1996 | 103,988 | 61,020 | 58.7 |
| 1997 | 105,072 | 62,547 | 59.5 |
| With children under 18: | | | |
| 1994 | 35,078 | 24,019 | 68.5 |
| 1995 | 35,333 | 24,512 | 69.4 |
| 1996 | 35,133 | 24,727 | 70.4 |
| 1997 | 35,368 | 25,345 | 71.7 |
| With children 6 to 17, none younger: | | | |
| 1994 | 18,180 | 13,810 | 76.0 |
| 1995 | 18,673 | 14,218 | 76.1 |
| 1996 | 18,527 | 14,329 | 77.3 |
| 1997 | 19,023 | 14,904 | 78.3 |
| With children under 6: ... | | | |
| 1994 | 16,898 | 10,209 | 60.4 |
| 1995 | 16,659 | 10,293 | 61.8 |
| 1996 | 16,606 | 10,398 | 62.6 |
| 1997 | 16,345 | 10,441 | 63.9 |
| With no children under 18: | | | |
| 1994 | 67,029 | 35,598 | 53.1 |
| 1995 | 67,734 | 35,869 | 53.0 |
| 1996 | 68,855 | 36,293 | 52.7 |
| 1997 | 69,704 | 37,202 | 53.4 |

## Age of women workers

The percentage of women who participate in the labor force differs considerably by age. The following discussion focuses on three major groups: 16- to 24-year olds, 25- to 44-year olds, and 45- to 54-year olds. Older women are omitted from the discussion because there has been—and continues to be—relatively little change in labor market activity among those aged 55 and older. Chart 1 summarizes the labor force rate trends for the three groups.

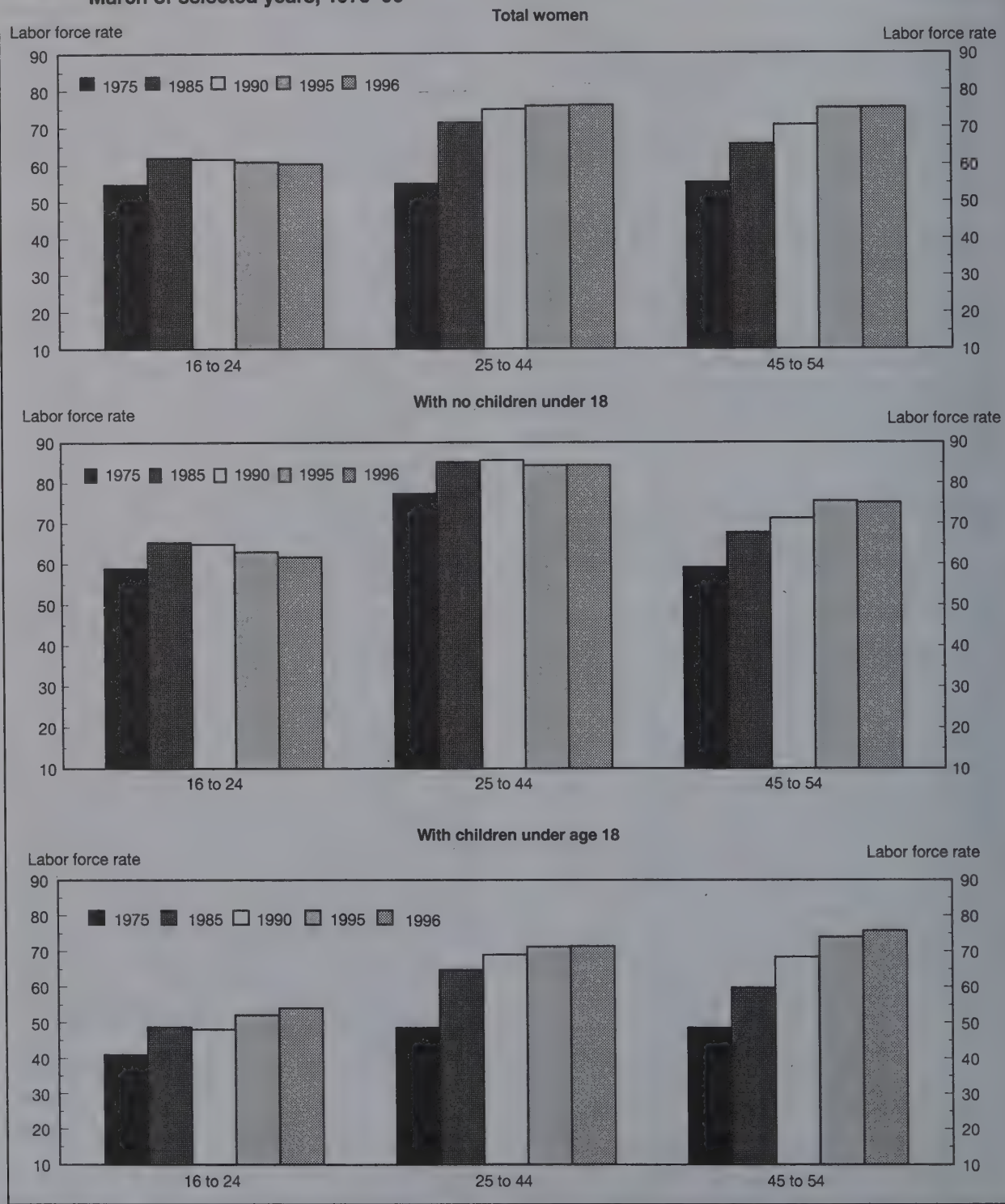
*Women aged 16 to 24.* The trend of labor force participation for young women is markedly different from that for women in the other two major age groups. On balance, the labor force participation rate of women 16 to 24 years old rose during 1975 to 1987, peaking at slightly more than 62 percent. Subsequently, it declined, falling to about 59 percent by 1993. The downward movement occurred mostly among those who had no children—the group that makes up the overwhelming majority of these young women. From 1994 through 1996, the participation rate of young women displayed no clear direction.

Two factors appear to have been largely responsible for the participation rate decline among the young women. One is the sensitivity of teen labor force participation to the business cycle. During periods of economic growth, the participation rate for teenagers rises; during economic contractions, it falls. Following the 1990–91 recession, the economy experienced a period of slow employment growth, which had a negative impact on teen participation rates.

The other factor was the growing tendency among all young women—teenagers as well as 20- to 24-year olds—to stay in school. The proportion of all female teenagers who were in school rose rapidly, from 61 percent in 1990 (annual average) to 67 percent in 1996. It had been 60 percent in 1986. Over the same period, the enrollment rate for women 20 to 24 years old rose from 23 percent to 29 percent; in 1986, 18 percent had been in school. An increase in students as a proportion of the whole group will have a dampening effect on the entire group's labor force participation rate (all other things being equal) because students typically are less likely to be labor force participants than young persons who are not in school. The following tabulation shows the 1996 average annual labor force participation rates for women aged 16 to 24 who were either enrolled or not enrolled in school:

| | *Labor force participation rates* | |
|---|---|---|
| | *Enrolled* | *Not enrolled* |
| Women, 16 to 24 years old | 50.2 | 72.5 |
| 16 to 19 years | 44.6 | 64.9 |
| 20 to 24 years | 61.0 | 75.5 |

**Chart 1.** **Women's labor force participation rates by age and presence of own children under 18, March of selected years, 1975–96**



Indeed, had the enrollment rates of young women been the same in 1996 as they were in 1986, then nearly 64 percent would have been in the labor force instead of the actual 62 percent (annual averages).

*Women aged 25 to 44.* The labor force participation rate for women in this age group trended generally upward. From 1975 to 1985, their rate grew rapidly, from about 55 percent to 71 percent. Growth slowed substantially thereafter as their participation rate moved up to 76 percent in 1996.

Mothers of children under age 18 led the increase. (Mothers aged 25 to 44 account for 4 out of 5 of all women with children under 18.) From 1975 through 1985, the participation rate for these mothers grew 16 percentage points (from a little less than 49 percent to slightly more than 65 percent). Thereafter, the increases slowed and they added only an additional 6 percentage points through 1996.

Although relatively more of the women in this age group who had no children under 18 were in the labor force than the mothers, their participation rate gains were smaller. From 1975 through 1985, the participation rate of those with no children rose a little less than 8 percentage points (from slightly more than 77 percent to 85 percent); it remained practically unchanged thereafter.

Because of the rapidity of the gains on the part of the mothers, the gap between their participation rate and the rate of those with no children under age 18 narrowed sharply. In 1975, the labor force participation rate of those who were mothers was about 29 percentage points below that of those who had no children under 18. By 1996, the difference had shrunk by more than half, to about 13 percentage points.

*Women aged 45 to 54.* The participation rate for these women also grew, but followed a somewhat different path. Between 1975 and 1985, their rate increased by about 11 percentage points, from 55 percent to 66 percent. Unlike the trend for 25- to 44-year-old women, however, labor force growth among these older women did not slow appreciably, and, by 1996, an additional 10 percentage points were added as their overall rate reached 75 percent.

Relatively few women in this age group were mothers (about 1 out of 4). Even so, the participation rate of those who were mothers advanced rapidly, rising by about 11 percentage points—from 49 percent to 60 percent—over the 1975–85 period. By 1996, it gained an additional 16 points to reach 76 percent.

Growth was slower among the 45- to 54-year olds with no children under age 18. Their participation rate grew by just 9 percentage points (from 59 percent to 68 percent) between 1975 and 1985, and by only another 7 percentage points to reach 75 percent in 1996.

Once again, these different rates of growth narrowed the labor force participation rate gap between the mothers and the women with no children. In 1975, the participation rate for those with no children was about 11 percentage points higher than that of the mothers; by 1996, it was just about the same.

**Table 3. Changes in number of women in the labor force and labor force participation rates, March 1986–96**

[Numbers in thousands]

| Characteristic | Original | Labor force rate of 16–24 year olds held contant[1] | Difference |
|---|---|---|---|
| **Civilian labor force** | | | |
| 1986 | 51,732 | 51,732 | 0 |
| 1996 | 61,229 | 61,525 | 296 |
| Percent change 1986–96 | 18.4 | 18.9 | .6 |
| **Participation rate** | | | |
| 1986 | 54.7 | 54.7 | .0 |
| 1996 | 58.8 | 59.1 | .3 |
| Percent change 1986–96 | 7.5 | 8.0 | .5 |

[1] Labor force participation rates of women 16 to 24 years old are held constant at their most recent high—50.4 percent for teenagers in 1990 and 71.7 percent for 20- to 24-year olds in 1987.

NOTE: Data beginning in 1994 are not strictly comparable with data for prior years because they incorporate the results of a major redesign of the Current Population Survey (CPS) and 1990 census-based population controls adjusted for the estimated undercount. See text footnote 3 for further information about the CPS.

## Summary and conclusion

Overall, the labor force participation rate for women grew between 1975 and 1990, but at a gradually slowing pace. From 1990 to 1993, however, it changed little. Subsequently, the participation rate resumed its upward trend.

Mothers were primarily responsible for the gains in women's labor force participation rates both before 1990 and after 1993. Indeed, following the growth hiatus of the early 1990s, only the mothers' participation rate began to edge up, while that for women with no children remained unchanged.

A number of factors combined to define the trend. One was the decline in the participation rate for women 16 to 24 years old (who are generally neither married nor mothers) during the late 1980s and early 1990s. Had this decline not occurred, both the number of women in the labor force overall and their labor force participation rate would have been somewhat greater than they actually were. As shown in table 3, the number of women in the labor force would have grown by nearly 300,000 more, and their overall labor force participation rate would have increased by 0.3 percentage point

more, between March 1986 and March 1996 had the participation rates of 16- to 24-year-old women remained unchanged instead of declining.

Another factor was the slowing of the increase in participation among women 25 to 44 years old. Accompanying the slowdown among women in this age group was the rapid narrowing of the participation rate gap between those who were mothers and those who had no children under 18. Indeed, among the 45- to 54-year olds, the gap disappeared.

Thus, despite the temporary interruption of growth in the early 1990s, the overall scenario depicted by the data is one of continuing, long-term labor force participation rate gains for women, particularly those with children. The gains, however, are much slower and more sporadic than they were two decades ago. □

## Footnotes

[1] See Howard N Fullerton, Jr., "The 2005 labor force: growing, but slowly," *Monthly Labor Review*, November 1995, p. 34.

[2] See William Goodman, Stephen Antczak, and Laura Freeman, "Women and jobs in recessions, 1969–92," *Monthly Labor Review*, July 1993, pp. 26–35.

[3] The Current Population Survey (CPS) is a nationwide household survey conducted each month for the Bureau of Labor Statistics by the Bureau of the Census. The sample currently includes about 50,000 households. The purpose of the survey is to collect information about the demographic characteristics and employment status of the civilian noninstitutional population 16 years old and over. The data collected in March of each year by the CPS undergo additional editing and processing to more clearly identify family and household relationships among individuals. For this reason, data from the March CPS have traditionally been used to track trends in labor force participation of mothers.

[4] See *Employment Characteristics of Families: 1996*, USDL 97-195 (Bureau of Labor Statistics, June 16, 1997).

[5] In 1967, substantial changes were made in the CPS questionnaire as a result of recommendations of the President's Committee to Appraise Employment and Unemployment Statistics (the Gordon Committee).

[6] See Sharon R. Cohany, Anne E. Polivka, and Jennifer M. Rothgeb, "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings*, February 1994, pp. 13–37.

[7] See Anne E. Polivka and Stephen M. Miller, "The CPS After the Redesign: Refocusing the Economic Lens," *BLS Working Paper* 269 (Bureau of Labor Statistics, March 1995), for estimates of the redesign effect on labor force participation rates.

# The working poor

In addition to having incomes below the poverty line, the working poor tend to share certain economic and demographic characteristics.[1] First, they face labor market problems like unemployment, involuntary part-time employment, and low earnings—all of which lower their annual incomes. Second, the working poor often live in family structures that are more conducive to poverty, such as those with dependent children but only one family member of working age. Finally, the working poor are overrepresented among women, blacks, Hispanics, and the less educated.

Of the more than 36 million people living in poverty in 1995, about 7.5 million either worked or looked for work for at least half the year and hence were classified as the working poor. The "poverty rate" for workers—the ratio of the working poor to all persons who were in the labor force for 27 weeks or more—was 5.9 percent. As in previous years, the majority of the working poor in 1995 worked full time most weeks during the year, although full-time workers generally are less likely to be poor. (See table 1.)

The three primary labor market problems faced by the working poor are unemployment, involuntary part-time employment, and low earnings. As shown in the tabulation below, 3.1 million (42 percent) of the working poor in 1995 experienced at least one spell of unemployment during the year. Also, nearly a quarter of the working poor cited involuntary part-time work at some time during the year among their labor market difficulties. Among the working poor (in thousands):

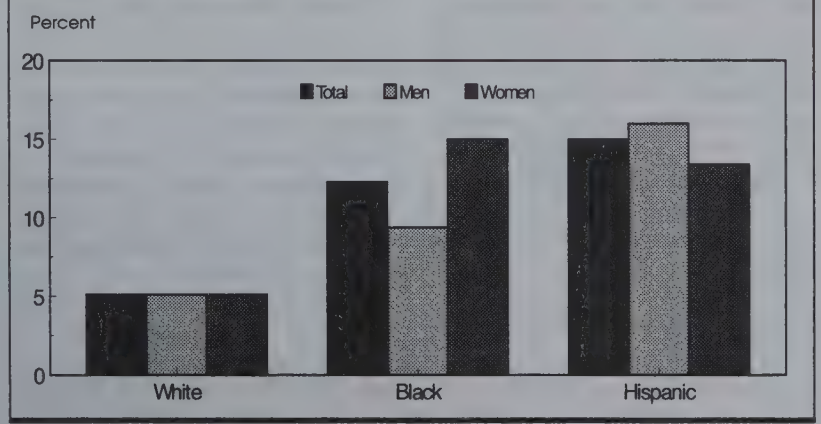
| | *Number with unemployment* | *Number with involuntary part-time employment* |
|---|---|---|
| Total | 3,134 | 1,799 |
| 1 to 26 weeks | 1,674 | 1,176 |
| 27 weeks or more | 1,460 | 624 |
| Median weeks | 26.2 | 17.3 |

*Full-time wage and salary workers.* Among full-time wage and salary workers who were in the labor force for at least half the year in 1995, 3.9 million lived in poverty.[2] Of these, the vast majority (86 percent) experienced at least one of the three major labor market problems at some time during the year. Low earnings were the most common problem, with 7 in 10 of poor workers subject to low earnings alone or in combination with other labor market problems. Unemployment, either by itself or in combination with other problems, was an issue for about 4 in 10 of this subgroup of the working poor. Finally, a little more than 1 in 7 worked part time involuntarily in 1995. (See table 2.)

*Families.* Family structure—including marital status, size of family, and the labor force status of family members—plays an important role in determining poverty rates among workers. The working poor are most likely to be in families maintained by single parents (especially women), and least likely to be in married-couple families (especially those with two or more earners). The poverty rate for families maintained by women with children under 18 was 25 percent in 1995; the rate among married-couple families with at least two earners was less than 2 percent.

*Demographic characteristics.* Although there were slightly more men among the working poor than women in 1995, the poverty *rate* continued to be greater for women (6.4 versus 5.6 percent). Similarly, while white workers comprised about three-fourths of the total number of working poor, poverty rates were 2½ and 3 times higher, respectively, for blacks and Hispanics. Among white workers, men's and women's poverty rates were equal, at

**Chart 1. Poverty rate by sex, race and Hispanic orgin, 1995**




"At issue" was prepared by Thomas W. Hale, an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics.

**Table 1. Persons in the labor force for 27 weeks or more: poverty status by work experience, usual full- or part-time status, 1995**

[Numbers in thousands]

| Work experience | Total in the labor force | At or above poverty level | Below poverty level | Poverty rate[1] |
|---|---|---|---|---|
| Total in labor force | 126,020 | 118,539 | 7,482 | 5.9 |
| Did not work during the year | 1,085 | 583 | 502 | 46.3 |
| Worked during the year | 124,935 | 117,955 | 6,980 | 5.6 |
| Usual full-time workers | 103,545 | 99,113 | 4,433 | 4.3 |
| Some involuntary part-time work[2] | 5,917 | 5,234 | 683 | 11.5 |
| Usual part-time workers | 21,390 | 18,843 | 2,547 | 11.9 |
| Involuntary part-time workers | 4,307 | 3,190 | 1,116 | 25.9 |
| Voluntary part-time workers | 17,083 | 15,653 | 1,431 | 8.4 |

[1] Number below the poverty level as a percent of the total in the labor force for 27 weeks or more.

[2] Number who usually worked full time (35 hours or more per week) but who worked part time involuntarily in at least one week during the year.

**Table 2. Full-time wage and salary workers in the labor force for 27 weeks or more: poverty status and labor market problems, 1995**

[Numbers in thousands]

| Poverty status and labor market problems | Total | At or above poverty level | Below poverty level | Poverty rate[1] |
|---|---|---|---|---|
| Total, full-time wage and salary workers | 97,931 | 94,020 | 3,912 | 4.0 |
| No unemployment, involuntary part-time employment, or low earnings[2] | 77,013 | 76,472 | 541 | 0.7 |
| Unemployment only | 6,289 | 5,770 | 519 | 8.3 |
| Involuntary part-time employment only | 2,650 | 2,595 | 56 | 2.1 |
| Low earnings only | 7,250 | 5,729 | 1,520 | 21.0 |
| Unemployment and involuntary part-time employment | 1,199 | 1,101 | 99 | 8.2 |
| Unemployment and low earnings | 2,053 | 1,307 | 745 | 36.3 |
| Involuntary part-time employment and low earnings | 968 | 729 | 239 | 24.7 |
| Unemployment, involuntary part-time employment, and low earnings | 509 | 317 | 192 | 37.7 |

[1] Number below the poverty level as a percent of the total in the labor force for 27 weeks or more.

[2] The low earnings threshold in 1995 was $224 per week.

5.1 percent. For blacks and Hispanics, however, there were substantial differences by gender. Black women, with a poverty rate of 15 percent in 1995, were more likely to be among the working poor than black men, whose rate was 9.4 percent. The opposite was true for Hispanic workers, among whom men had a working poverty rate of 16 percent, compared to a 13.4-percent rate for women. In addition, as in earlier analyses, young workers were the most likely to be poor, with poverty rates among black and Hispanic teenagers especially high. (See chart 1.)

*Educational attainment.* In general, workers with more education are much less likely to be among the working poor than those with less education. Among workers who were in the labor force for at least half the year in 1995, the poverty rate was nearly three times greater for those with less than a high school diploma than it was for high school graduates (17.2 versus 6.1 percent). Among workers who had been to college, poverty rates were quite low: 3.3 percent for those with an associate degree, and 1.5 percent for those with a bachelor's degree. □

## Footnotes

[1] The working poor are defined as those persons who devoted 27 weeks or more during the year to working or looking for work, and who either lived in families with incomes below the official poverty threshold for a family of that size, or were unrelated individuals whose own incomes fell below the poverty threshold. The poverty threshold for a family of four was $15,569 in 1995. For more complete definitions of concepts and background information on the working poor, see Jennifer M. Gardner and Diane E. Herz, "Working and poor in 1990," *Monthly Labor Review*, December 1992.

[2] Full-time wage and salary workers are those who worked 35 hours or more per week during most weeks of the year, and who received wages, salaries, commissions, tips, payments in kind, or piece rates for the work they performed. Self-employed workers are excluded from this group.

## Employment options

*Half a Job: Bad and Good Part-Time Jobs in a Changing Labor Market.* By Chris Tilly. Philadelphia, PA, Temple University Press, 1996, 228 pp., bibliography. $49.95, cloth; $19.95, paper.

*Just a Temp.* By Kevin D. Henson. Philadelphia, PA, Temple University Press, 1996, 202 pp., bibliography. $49.95, cloth; $16.95, paper.

The flexibility of the U.S. labor market has given rise to a number of employment options. Two of them—part-time jobs and jobs arranged through temporary help companies—are the subjects of recent books whose authors have supplemented existing survey data with original case studies.

Perhaps the largest category of nonstandard work is part-time employment, which accounts for nearly one-fifth of the employed. While most part-timers work short hours by choice, the number of part-timers who would prefer full-time work has shown a long-term upward trend. In *Half a Job*, Chris Tilly seeks answers to some fundamental questions about this labor market phenomenon: why part-time employment has grown, what kinds of part-time jobs exist, and how businesses make decisions about and use part-time workers.

Well-written and accessible to the non-economist, the book begins with a discussion of the long-term increase in part-time employment, then covers the theoretical underpinnings of this study, the kinds of part-time jobs, and the strategies of firms with regard to part-time employment, and concludes with suggested policies toward part-time employment. In addition to examining data from large sample surveys, primarily the Current Population Survey, Tilly conducted 82 "semi-structured, face-to-face" interviews with employers, workers, and union officials in Boston and Pittsburgh in the late 1980s. The book is sprinkled with excerpts from the interviews, providing an interesting glimpse into the thought processes of company managers and workers. The research focused on two industries: retail trade (especially grocery stores) and insurance, both service-providing industries with expanding employment but with very different strategies with respect to part-time employment. Retail trade has long depended on part-timers, while insurance has a mostly full-time work force.

In explaining the long-term increase in the overall incidence of part-time employment, Tilly considers, and dismisses, factors such as demographic changes, widening compensation differentials between full- and part-time workers, and long-term growth in unemployment. Instead, he argues, the explanation lies partly in the evolution in industry composition, as industries that have traditionally used more part-timers, such as retail trade and services, account for a growing share of the work force. Even more important, there has been greater use of part-time workers by almost every industry, as a variety of employers have adjusted their personal strategies to boost their use of part-timers.

Tilly identifies two types of part-time jobs, secondary and retention. Secondary part-time jobs, the most prevalent type, are typically valued by managers for their relatively low cost and greater flexibility in scheduling, and are characterized by high turnover and low skill requirements, pay, benefits, and productivity. Retention part-time jobs, on the other hand, are created to keep or attract valued employees who prefer part-time hours. Such jobs tend to have low turnover and high levels of skill, compensation, and productivity. Companies create retention part-time jobs, posits Tilly, to help offset an oversupply of involuntary full-time positions that forces some people to work more hours than they prefer. Put another way, retention jobs are created one at a time, while secondary part-time jobs are created as whole classes. Tilly admits that the "half a job" designation applies only to some part-time jobs; retention jobs are considered "good jobs," and even some secondary jobs are the choice of their holders.

In identifying the reasons for large disparities in the use of part-time employment between retail trade and insurance, Tilly identifies several industry-specific factors, including the importance of staff continuity, the use of career ladders, and whether the target work force is less skilled and short-term or more skilled and longer term. Industry by itself is not destiny, however; the firms' own culture and traditions play an important role. Even within a given firm, decision makers hold differing opinions as to the efficacy of part-time help. For example, Tilly quotes supermarket managers who were resistant to their bosses' desire to hire more part-time workers, whom the managers viewed as less committed and productive. The local labor market also is a determinant; assisted by technology, some firms have adopted part-time staffing strategies in response to the preferences of available workers. Operating with few legal constraints, companies have many staffing options, and Tilly's skillful blending of qualitative and quantitative information helps us to understand the choices they make.

Unlike part-time work, whose share of employment has changed slowly, work intermediated by temporary help supply firms has increased six-fold since 1982. *Just a Temp* is a case study of the clerical side of the industry primarily from the perspective of the temporary workers.

While a graduate student in sociology, author Kevin Henson supported himself by "temping" as an office worker in Chicago. He began his research as "a coping strategy" to maintain his "sense of self against the onslaught of condescension" he faced on the job. Altogether, Henson conducted

open-ended interviews with 31 temps, 3 employees of temporary agencies, and 1 representative of a client company. In six chapters Henson discusses the history of the industry, who temporary workers are, the strategies they use to get assignments, the types of work offered to temps, the ways in which temps make a favorable impression on the assignment, and how they deal with the perceived stigma of the work. Henson also offers policy prescriptions to improve the lot of temporary workers.

As foreshadowed by the title, temporary work is portrayed as an almost unrelentingly bleak landscape of monotonous tasks, limited opportunity, and constrained behavior. Even aspects of temporary work that are often touted as advantages were not corroborated by this research. For instance, one benefit of temping often cited by the industry and workers alike is the flexibility to set one's own schedule. Yet the temps Henson interviewed rarely turned down work or interrupted an assignment for their own convenience. Another advantage of temping is said to be the variety of work settings and experiences. But the temps interviewed preferred the levels of trust and comfort that came with being in one place for a while to the challenges of adjusting to frequent assignment changes.

Henson distinguishes between two types of temporary assignments: routine and coverage. Routine work involves single-task, highly standardized clerical assignments, such as stuffing envelopes or answering the telephone. These are often described as "bad jobs" by temporary workers. In the other type of assignment, coverage work, a temp replaces or fills in for a permanent employee, and performs a variety of tasks, exercises some autonomy over the execution of the tasks, and has opportunities for social interaction. Not surprisingly, coverage work was rated more highly than routine work and was sometimes even described as "good jobs" by the temps.

The focus of this qualitative study is on the various accommodations made by the temps and the interpersonal relationships engendered by the work. There are trenchant comments on these topics from interviewees and perceptive commentary by the author. The pecuniary aspects of the job on the other hand, are virtually ignored. There is almost no discussion of workers' earnings, for example, nor of the availability of employer-provided benefits. One wonders, for instance, whether the temps had concerns regarding their wages, health insurance, and pension coverage.

Even more problematic is the very small sample of workers used in the study. The temps interviewed were demographically, geographically, and occupationally far less diverse than the Nation's temporary help work force of 2 million. The workers' accounts nearly always confirmed the author's gloomy views but seldom were supported with survey data. Despite these limitations, Henson presents a sobering picture of a fast-growing industry that is worthwhile reading for the parties involved, especially, perhaps, for the staffs of the client companies who create the daily working conditions in which the temporary workers operate.

—Sharon R. Cohany

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

## General notes

The following notes apply to several tables in this section:

**Seasonal adjustment.** Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 42, and 46. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 1997 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 1997 *Review* and reflect the experience through March 1997. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

**Adjustments for price changes.** Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

## Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2414. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 871. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet (http://stats.bls.gov/cgi-bin/dsrv?lf). Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet (http://stats.bls.gov/cgi-bin/dsrv?ee). Additional information on labor force data for sub-States are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments; and Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the CPI reflecting 1982–84 expenditure patterns, see *The Consumer Price Index: 1987 Revision*, BLS Report 736. Additional data on international prices appear in monthly news releases.

For a listing of available industry productivity indexes and their components, see *Productivity Measures for Selected Industries and Government Services*, BLS Bulletin 2461.

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

## Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

# Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

**Labor market indicators** include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation,**

**prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

**Alternative measures of wage and compensation rates of change**, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

### Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

## Employment and Unemployment Data

(Tables 1; 4–20)

### Household survey data

### Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 50,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

### Definitions

**Employed persons** include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

**Unemployed persons** are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

### Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the end of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. Because of the redesign of the survey, seasonally adjusted data back to 1994 usually are revised. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 606–6378.

#### Revisions to household data

Data relating to 1994 and subsequent years are not directly comparable with data for 1993 and earlier years because of the introduction of a major redesign of the survey questionnaire and collection methodology. (See the February 1994 issue of *Employment and Earnings*, a monthly publication of the Bureau of Labor Statistics.) Moreover, data for 1990 forward incorporate 1990 census-based population controls, adjusted for the estimated undercount. Additional information on the population revisions appears in the March 1996 issue of *Employment and Earnings*.

### Establishment survey data

### Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 390,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

### Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

**Employed persons** are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force)

are counted in each establishment which reports them.

**Production workers** in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

**Earnings** are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

**Hours** represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

### Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1996 benchmarks, was made with the release of May 1997 data, published in the July 1997 issue of the *Review*. Coincident with the benchmark adjustment, seasonally adjusted data were revised back to 1988 to reflect updated seasonal factors and seasonal adjustment procedures. Unadjusted data from April 1996 forward and seasonally adjusted data from January 1993 forward are subject to revision in future benchmarks.

Revisions in State data (table 11) occurred with the publication of January 1997 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 606–6555.

## Unemployment data by State

### Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

### Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 606–6392 (table 10) or (202) 606–6589 (table 11).

## Compensation and Wage Data

(Tables 1–3; 21–26)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

## Employment Cost Index

### Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed

employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

### Definitions

**Total compensation** costs include wages, salaries, and the employer's costs for employee benefits.

**Wages and salaries** consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

**Benefits** include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

### Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the March issue of the BLS quarterly, *Compensation and Working Conditions.*

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Division of Employment Cost Trends: (202) 606–6199.

## Employee Benefits Survey

### Description of the series

**Employee benefits** data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 6,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25.

The survey covers paid leave benefits such as lunch and rest periods, holidays and vacations, and personal, funeral, jury duty, military, parental, and sick leave; sickness and accident, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid parental leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

### Definitions

**Employer-provided benefits** are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

**Participants** are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

**Defined benefit pension plans** use predetermined formulas to calculate a retirement benefit, and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

**Defined contribution plans** generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

**Tax-deferred savings plans** are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

**Flexible benefit plans** allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of care within a given benefit.

### Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small establishments are conducted in even-numbered years and surveys of medium and large establishments are conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Division of Occupational Pay and Employee Benefit Levels: (202) 606–6222.

## Work stoppages

### Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

### Definitions

**Number of stoppages**: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

**Workers involved**: The number of workers directly involved in the stoppage.

**Number of days idle**: The aggregate number of workdays lost by workers involved in the stoppages.

**Days of idleness as a percent of estimated working time**: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

### Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Division of Developments in Labor–Management Relations: (202) 606–6275.

## Price Data

(Tables 2; 27–37)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

## Consumer Price Indexes

### Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1982–84 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 19,000 retail establishments and 57,000 housing units in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 15 major urban centers are presented in table 28. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

### Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 606–7000.

## Producer Price Indexes

### Description of the series

**Producer Price Indexes** (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 606–7705.

## International Price Indexes

### Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

### Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1990.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f.(costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 606–7155.

## Productivity Data

(Tables 2; 38–41)

## Business sector and major sectors

### Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

### Definitions

**Output per hour of all persons** (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined unit of labor and capital inputs.

**Compensation per hour** is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

**Unit labor costs** are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

**Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits.

**Unit profits** include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

**Hours of all persons** are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

**Labor inputs** are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

**Capital services** are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

**Combined units of labor and capital inputs** are derived by combining changes in labor and capital input with weights which represent each component's share of total output. The indexes for capital services, labor inputs, and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

### Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures

by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 38–41 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 606–5606.

## Industry productivity measures

### Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

### Definitions

**Output per employee hour** is derived by dividing an index of industry output by an index of aggregate hours of all employees. Output indexes are based on quantifiable units of products or services, or both, combined with value-share weights. Whenever possible, physical quantities are used as the unit of measurement for output. If quantity data are not available for a given industry, data on the constant-dollar value of production are used.

The **labor input** series consist of the hours of all employees (production and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

### Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some transportation industries, only indexes of output per employee are prepared. For some trade and service industries, indexes of output per hour of all persons (including self-employed) are constructed.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 606–5618.

# International Comparisons

(Tables 42–44)

## Labor force and unemployment

### Description of the series

Tables 42 and 43 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

### Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

### Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Canada, Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994), France (1992), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 Census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–1993 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. Therefore, data for 1994 onward are not directly comparable with data for 1993 and earlier years because of the redesign, and data for 1990 onward are not directly comparable with data for 1989 and earlier years because of the introduction of the 1990 census-based population controls, adjusted for the undercount. See the Notes section on Employment and Unemployment Data of this *Review*.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in

1992 and 1993, by 0.4 percentage point in 1994, and 0.6 percentage point in 1995.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 43. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–1992 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. By 1994, the adjusted unemployment rate had risen from 7.8 to 9.6 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

## Manufacturing productivity and labor costs

### Description of the series

Table 44 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons — that is, series that measure changes over time — rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures — output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

### Definitions

**Output**, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production. While methods of deriving national accounts measures differ from country to country, BLS has reviewed these methods and determined that the series are sufficiently comparable for measuring comparative trends in productivity and unit labor costs.

The 1977–94 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977. The 1994–95 percent changes in manufacturing output are based on the trend shown by the industrial production index published by the U.S. Federal Reserve Board for the manufacturing sector.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1996. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 38 and 40 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

**Total labor hours** refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–96; therefore, the BLS measure of labor input for Denmark ends in 1993.

**Total compensation (labor cost)** includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using

statistics on employment, average hours, and hourly compensation. For France and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

### Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654

## Occupational Injury and Illness Data

(Table 45)

### Survey of Occupational Injuries and Illnesses

### Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification (SIC) and size of employment.

### Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

**Occupational injury** is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

**Occupational illness** is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

**Lost workday injuries and illnesses** are cases that involve days away from work, or days of restricted work activity, or both.

**Lost workdays** include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

**Incidence rates** are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

### Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: Occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example., contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the *Office of Occupational Safety, Health and Working Conditions* at (202) 606–6180, or access the BLS Internet site at: http://www.bls.gov/oshhome.htm.

## Census of Fatal Occupational Injuries

(Table 46)

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administra-

tion and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. Institutionalized persons, such as prison inmates, are excluded. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

## Definition

**A fatal work injury** is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

## Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

For more information on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 606–6175, or access the BLS Internet site at: http://www.bls.gov/oshhome.htm

## 1. Labor market indicators

| Selected indicators | 1995 | 1996 | 1995 | | 1996 | | | | 1997 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | III | IV | I | II | III | IV | I | II |
| **Employment data** | | | | | | | | | | |
| Employment status of the civilian noninstitutionalized population (household survey):[1] | | | | | | | | | | |
| Labor force participation rate | 66.6 | 66.8 | 66.6 | 66.4 | 66.6 | 66.7 | 66.8 | 66.9 | 67.2 | 67.1 |
| Employment-population ratio | 62.9 | 63.2 | 62.8 | 62.8 | 62.9 | 63.1 | 63.3 | 63.4 | 63.6 | 63.8 |
| Unemployment rate | 5.6 | 5.4 | 5.6 | 5.5 | 5.6 | 5.4 | 5.3 | 5.3 | 5.3 | 4.9 |
| Men | 5.6 | 5.4 | 5.6 | 5.6 | 5.6 | 5.5 | 5.2 | 5.2 | 5.2 | 4.8 |
| 16 to 24 years | 12.5 | 12.6 | 12.8 | 12.9 | 13.0 | 12.7 | 12.4 | 12.3 | 12.4 | 11.4 |
| 25 years and over | 4.3 | 4.1 | 4.3 | 4.2 | 4.3 | 4.1 | 3.9 | 3.9 | 3.9 | 3.6 |
| Women | 5.6 | 5.4 | 5.7 | 5.5 | 5.5 | 5.4 | 5.3 | 5.4 | 5.4 | 5.1 |
| 16 to 24 years | 11.6 | 11.3 | 12.1 | 11.6 | 11.9 | 11.1 | 11.1 | 11.2 | 11.5 | 11.1 |
| 25 years and over | 4.4 | 4.3 | 4.4 | 4.3 | 4.3 | 4.3 | 4.2 | 4.3 | 4.2 | 3.9 |
| Employment, nonfarm (payroll data), in thousands:[1] | | | | | | | | | | |
| Total | 117,191 | 119,523 | 117,414 | 117,949 | 118,471 | 119,248 | 119,898 | 120,452 | 121,138 | 121,854 |
| Private sector | 97,885 | 100,076 | 98,098 | 98,610 | 99,111 | 99,831 | 100,392 | 100,953 | 101,598 | 102,259 |
| Goods-producing | 24,265 | 24,431 | 24,260 | 24,293 | 24,336 | 24,428 | 24,447 | 24,509 | 24,635 | 24,694 |
| Manufacturing | 18,524 | 18,457 | 18,507 | 18,488 | 18,473 | 18,467 | 18,443 | 18,444 | 18,476 | 18,504 |
| Service-producing | 92,925 | 95,092 | 93,154 | 93,656 | 94,135 | 94,821 | 95,451 | 95,943 | 96,504 | 97,159 |
| Average hours: | | | | | | | | | | |
| Private sector | 34.5 | 34.4 | 34.4 | 34.4 | 34.2 | 34.4 | 34.5 | 34.5 | 34.7 | 34.5 |
| Manufacturing | 41.6 | 41.6 | 41.4 | 41.4 | 40.9 | 41.6 | 41.7 | 41.8 | 41.9 | 42.0 |
| Overtime | 4.4 | 4.5 | 4.3 | 4.3 | 4.3 | 4.5 | 4.5 | 4.6 | 4.8 | 4.8 |
| **Employment Cost Index** | | | | | | | | | | |
| Percent change in the ECI, compensation: | | | | | | | | | | |
| All workers (excluding farm, household and Federal workers) | 2.7 | 2.9 | .8 | .5 | .9 | .7 | .8 | .5 | .8 | .6 |
| Private industry workers | 2.6 | 3.1 | .6 | .4 | .9 | .9 | .6 | .6 | .8 | .8 |
| Goods-producing[2] | 2.4 | 2.8 | .5 | .6 | .7 | .9 | .6 | .6 | .4 | 1.0 |
| Service-producing[2] | 2.8 | 3.2 | .7 | .3 | 1.1 | .8 | .7 | .5 | 1.1 | .7 |
| State and local government workers | 2.9 | 2.6 | 1.4 | .5 | .5 | .2 | 1.3 | .6 | .4 | .1 |
| Workers by bargaining status (private industry): | | | | | | | | | | |
| Union | 2.8 | 2.4 | .8 | .7 | .6 | .9 | .3 | .5 | .2 | .6 |
| Nonunion | 2.7 | 3.1 | .6 | .4 | .9 | .8 | .8 | .5 | 1.1 | .8 |

[1] Quarterly data seasonally adjusted.

[2] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

## 2. Annual and quarterly percent changes in compensation, prices, and productivity

| Selected measures | 1995 | 1996 | 1995 | | 1996 | | | | 1997 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | III | IV | I | II | III | IV | I | II |
| **Compensation data**[1,2] | | | | | | | | | | |
| Employment Cost Index—compensation (wages, salaries, benefits): | | | | | | | | | | |
| Civilian nonfarm | 2.7 | 2.9 | 0.8 | 0.5 | 0.9 | 0.7 | 0.8 | 0.5 | 0.8 | 0.6 |
| Private nonfarm | 2.6 | 3.1 | .6 | .4 | .9 | .9 | .6 | .6 | .8 | .8 |
| Employment Cost Index—wages and salaries: | | | | | | | | | | |
| Civilian nonfarm | 2.9 | 3.3 | .8 | .6 | 1.0 | .8 | .9 | .6 | .9 | .7 |
| Private nonfarm | 2.8 | 3.4 | .7 | .6 | 1.1 | 1.0 | .7 | .6 | 1.0 | .9 |
| **Price data**[1] | | | | | | | | | | |
| Consumer Price Index (All Urban Consumers): All Items | 2.5 | 3.3 | .5 | .2 | 1.4 | .6 | .7 | .5 | .9 | .2 |
| Producer Price Index: | | | | | | | | | | |
| Finished goods | 2.3 | 2.8 | −.2 | .9 | .8 | 1.2 | .1 | .7 | −.4 | −.3 |
| Finished consumer goods | 2.3 | 3.6 | −.1 | .6 | 1.0 | 1.6 | .3 | .6 | −.6 | −.2 |
| Capital equipment | 2.2 | .4 | −.5 | 1.8 | .1 | −.1 | −.7 | 1.0 | .1 | −.5 |
| Intermediate materials, supplies, and components | 3.3 | .7 | .1 | −.6 | −.2 | 1.0 | .4 | −.6 | −.3 | .1 |
| Crude materials | 5.5 | 14.7 | −.9 | 3.4 | 3.8 | 3.0 | −.4 | 7.7 | −11.5 | −.4 |
| **Productivity data**[3] | | | | | | | | | | |
| Output per hour of all persons: | | | | | | | | | | |
| Business sector | .0 | 1.5 | .7 | 2.0 | 2.2 | 2.5 | −1.1 | 1.9 | 1.8 | 2.7 |
| Nonfarm business sector | .2 | 1.3 | 1.1 | 1.6 | 1.9 | 2.2 | −1.0 | 1.8 | 1.4 | 2.7 |
| Nonfinancial corporations[4] | .8 | 2.4 | 4.8 | 2.1 | 1.3 | 3.3 | 2.3 | 2.0 | 1.9 | 3.2 |

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

## 3. Alternative measures of wage and compensation changes

| Components | Quarterly average | | | | | | Four quarters ending— | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1996 | | | | 1997 | | 1996 | | | | 1997 | |
| | I | II | III | IV | I | II | I | II | III | IV | I | II |
| Average hourly compensation:[1] | | | | | | | | | | | | |
| All persons, business sector | 2.7 | 4.7 | 3.3 | 3.3 | 4.4 | 3.2 | 2.9 | 3.3 | 3.5 | 3.5 | 3.9 | 3.5 |
| All persons, nonfarm business sector | 2.8 | 4.4 | 2.9 | 3.3 | 4.5 | 3.2 | 2.9 | 3.2 | 3.3 | 3.3 | 3.8 | 3.5 |
| Employment Cost Index—compensation: | | | | | | | | | | | | |
| Civilian nonfarm[2] | .9 | .7 | .8 | .5 | .8 | .6 | 2.8 | 2.9 | 2.8 | 2.9 | 2.9 | 2.8 |
| Private nonfarm | .9 | .9 | .6 | .6 | .8 | .8 | 2.7 | 2.9 | 2.9 | 3.1 | 3.0 | 2.9 |
| Union | .6 | .9 | .3 | .5 | .2 | .6 | 2.7 | 3.1 | 2.6 | 2.4 | 1.9 | 1.6 |
| Nonunion | .9 | .8 | .8 | .5 | 1.1 | .8 | 2.7 | 2.8 | 2.9 | 3.1 | 3.2 | 3.2 |
| State and local governments | .5 | .2 | 1.3 | .6 | .4 | .1 | 2.8 | 2.6 | 2.5 | 2.6 | 2.5 | 2.4 |
| Employment Cost Index—wages and salaries: | | | | | | | | | | | | |
| Civilian nonfarm[2] | 1.0 | .8 | .9 | .6 | .9 | .7 | 3.1 | 3.2 | 3.2 | 3.3 | 3.3 | 3.2 |
| Private nonfarm | 1.1 | 1.0 | .7 | .6 | 1.0 | .9 | 3.2 | 3.4 | 3.3 | 3.4 | 3.4 | 3.3 |
| Union | .5 | 1.1 | .5 | .5 | .5 | .7 | 2.5 | 3.0 | 2.7 | 2.6 | 2.6 | 2.2 |
| Nonunion | 1.2 | .9 | .8 | .6 | 1.1 | .9 | 3.3 | 3.4 | 3.5 | 3.6 | 3.4 | 3.5 |
| State and local governments | .4 | .2 | 1.6 | .6 | .4 | .1 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.7 |

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

## 4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

| Employment status | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| **TOTAL** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 198,584 | 200,591 | 200,641 | 200,847 | 201,061 | 201,273 | 201,463 | 201,636 | 202,285 | 202,388 | 202,513 | 202,674 | 202,832 | 203,000 | 203,166 |
| Civilian labor force | 132,304 | 133,943 | 134,165 | 133,898 | 134,291 | 134,636 | 134,831 | 135,022 | 135,848 | 135,634 | 136,319 | 136,098 | 136,173 | 136,200 | 136,290 |
| Participation rate | 66.6 | 66.8 | 66.9 | 66.7 | 66.8 | 66.9 | 66.9 | 67.0 | 67.2 | 67.0 | 67.3 | 67.2 | 67.1 | 67.1 | 67.1 |
| Employed | 124,900 | 126,708 | 126,889 | 126,988 | 127,248 | 127,617 | 127,644 | 127,855 | 128,580 | 128,430 | 129,175 | 129,384 | 129,639 | 129,364 | 129,708 |
| Employment-population ratio[2] | 62.9 | 63.2 | 63.2 | 63.2 | 63.3 | 63.4 | 63.4 | 63.4 | 63.6 | 63.5 | 63.8 | 63.8 | 63.9 | 63.7 | 63.8 |
| Unemployed | 7,404 | 7,236 | 7,276 | 6,910 | 7,043 | 7,019 | 7,187 | 7,167 | 7,268 | 7,205 | 7,144 | 6,714 | 6,534 | 6,836 | 6,583 |
| Unemployment rate | 5.6 | 5.4 | 5.4 | 5.2 | 5.2 | 5.2 | 5.3 | 5.3 | 5.4 | 5.3 | 5.2 | 4.9 | 4.8 | 5.0 | 4.8 |
| Not in the labor force | 66,280 | 66,647 | 66,460 | 66,949 | 66,770 | 66,637 | 66,632 | 66,614 | 66,437 | 66,754 | 66,194 | 66,577 | 66,659 | 66,800 | 66,876 |
| **Men, 20 years and over** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 87,811 | 88,606 | 88,614 | 88,650 | 88,733 | 88,840 | 88,971 | 89,040 | 89,446 | 89,556 | 89,604 | 89,680 | 89,776 | 89,829 | 89,888 |
| Civilian labor force | 67,324 | 68,044 | 68,222 | 68,044 | 68,056 | 68,273 | 68,391 | 68,369 | 68,998 | 68,827 | 69,111 | 69,147 | 69,059 | 69,167 | 69,203 |
| Participation rate | 76.7 | 76.8 | 77.0 | 76.8 | 76.7 | 76.8 | 76.9 | 76.8 | 77.1 | 76.9 | 77.1 | 77.1 | 76.9 | 77.0 | 77.0 |
| Employed | 64,085 | 64,897 | 65,071 | 65,165 | 64,978 | 65,299 | 65,349 | 65,367 | 65,813 | 65,818 | 66,066 | 66,243 | 66,418 | 66,266 | 66,414 |
| Employment-population ratio[2] | 73.0 | 73.2 | 73.4 | 73.5 | 73.2 | 73.5 | 73.4 | 73.4 | 73.6 | 73.5 | 73.7 | 73.9 | 74.0 | 73.8 | 73.9 |
| Agriculture | 2,335 | 2,356 | 2,366 | 2,347 | 2,366 | 2,400 | 2,355 | 2,356 | 2,364 | 2,276 | 2,362 | 2,428 | 2,421 | 2,417 | 2,411 |
| Nonagricultural industries | 61,750 | 62,541 | 62,705 | 62,818 | 62,612 | 62,899 | 62,994 | 63,011 | 63,449 | 63,542 | 63,703 | 63,815 | 63,997 | 63,849 | 64,003 |
| Unemployed | 3,239 | 3,146 | 3,151 | 2,879 | 3,078 | 2,974 | 3,042 | 3,002 | 3,185 | 3,009 | 3,045 | 2,904 | 2,640 | 2,901 | 2,789 |
| Unemployment rate | 4.8 | 4.6 | 4.6 | 4.2 | 4.5 | 4.4 | 4.4 | 4.4 | 4.6 | 4.4 | 4.4 | 4.2 | 3.8 | 4.2 | 4.0 |
| **Women, 20 years and over** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 96,262 | 97,050 | 97,064 | 97,146 | 97,226 | 97,290 | 97,366 | 97,457 | 97,520 | 97,571 | 97,638 | 97,685 | 97,767 | 97,834 | 97,919 |
| Civilian labor force | 57,215 | 58,094 | 58,139 | 58,230 | 58,349 | 58,432 | 58,574 | 58,728 | 58,894 | 58,743 | 59,130 | 58,974 | 59,130 | 59,207 | 59,186 |
| Participation rate | 59.4 | 59.9 | 59.9 | 59.9 | 60.0 | 60.1 | 60.2 | 60.3 | 60.4 | 60.2 | 60.6 | 60.4 | 60.5 | 60.5 | 60.4 |
| Employed | 54,396 | 55,311 | 55,315 | 55,498 | 55,644 | 55,681 | 55,753 | 55,871 | 56,165 | 55,954 | 56,359 | 56,392 | 56,481 | 56,585 | 56,685 |
| Employment-population ratio[2] | 56.5 | 57.0 | 57.0 | 57.1 | 57.2 | 57.2 | 57.3 | 57.3 | 57.6 | 57.3 | 57.7 | 57.7 | 57.8 | 57.8 | 57.9 |
| Agriculture | 830 | 827 | 847 | 826 | 844 | 800 | 786 | 772 | 797 | 775 | 739 | 779 | 743 | 740 | 841 |
| Nonagricultural industries | 53,566 | 54,484 | 54,468 | 54,672 | 54,800 | 54,881 | 54,967 | 55,099 | 55,369 | 55,179 | 55,620 | 55,613 | 55,738 | 55,845 | 55,844 |
| Unemployed | 2,819 | 2,783 | 2,824 | 2,732 | 2,705 | 2,751 | 2,821 | 2,857 | 2,729 | 2,788 | 2,771 | 2,581 | 2,650 | 2,621 | 2,501 |
| Unemployment rate | 4.9 | 4.8 | 4.9 | 4.7 | 4.6 | 4.7 | 4.8 | 4.9 | 4.6 | 4.7 | 4.7 | 4.4 | 4.5 | 4.4 | 4.2 |
| **Both sexes, 16 to 19 years** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 14,511 | 14,934 | 14,963 | 15,051 | 15,101 | 15,143 | 15,126 | 15,139 | 15,318 | 15,261 | 15,271 | 15,309 | 15,300 | 15,336 | 15,359 |
| Civilian labor force | 7,765 | 7,806 | 7,804 | 7,624 | 7,886 | 7,931 | 7,866 | 7,925 | 7,956 | 8,065 | 8,078 | 7,977 | 7,984 | 7,826 | 7,901 |
| Participation rate | 53.5 | 52.3 | 52.2 | 50.7 | 52.2 | 52.4 | 52.0 | 52.3 | 51.9 | 52.8 | 52.9 | 52.1 | 52.2 | 51.0 | 51.4 |
| Employed | 6,419 | 6,500 | 6,503 | 6,325 | 6,626 | 6,637 | 6,542 | 6,617 | 6,601 | 6,657 | 6,750 | 6,748 | 6,740 | 6,512 | 6,608 |
| Employment-population ratio[2] | 44.2 | 43.5 | 43.5 | 42.0 | 43.9 | 43.8 | 43.3 | 43.7 | 43.1 | 43.6 | 44.2 | 44.1 | 44.1 | 42.5 | 43.0 |
| Agriculture | 275 | 261 | 257 | 245 | 270 | 250 | 213 | 298 | 307 | 240 | 285 | 290 | 266 | 234 | 229 |
| Nonagricultural industries | 6,144 | 6,239 | 6,246 | 6,080 | 6,356 | 6,387 | 6,329 | 6,319 | 6,294 | 6,417 | 6,465 | 6,458 | 6,474 | 6,279 | 6,379 |
| Unemployed | 1,346 | 1,306 | 1,301 | 1,299 | 1,260 | 1,294 | 1,324 | 1,308 | 1,354 | 1,408 | 1,328 | 1,229 | 1,244 | 1,314 | 1,293 |
| Unemployment rate | 17.3 | 16.7 | 16.7 | 17.0 | 16.0 | 16.3 | 16.8 | 16.5 | 17.0 | 17.5 | 16.4 | 15.4 | 15.6 | 16.8 | 16.4 |
| **White** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 166,914 | 168,317 | 168,345 | 168,489 | 168,639 | 168,788 | 168,924 | 169,044 | 169,436 | 169,492 | 169,569 | 169,675 | 169,782 | 169,897 | 170,010 |
| Civilian labor force | 111,950 | 113,108 | 113,139 | 112,904 | 113,334 | 113,625 | 113,816 | 113,991 | 114,377 | 114,333 | 114,736 | 114,618 | 114,630 | 114,691 | 114,627 |
| Participation rate | 67.1 | 67.2 | 67.2 | 67.0 | 67.2 | 67.3 | 67.4 | 67.4 | 67.5 | 67.5 | 67.7 | 67.6 | 67.5 | 67.5 | 67.4 |
| Employed | 106,490 | 107,808 | 107,862 | 107,853 | 108,217 | 108,527 | 108,570 | 108,734 | 109,151 | 109,197 | 109,630 | 109,831 | 110,052 | 109,821 | 109,853 |
| Employment-population ratio[2] | 63.8 | 64.1 | 34.1 | 64.0 | 64.2 | 64.3 | 64.3 | 64.3 | 64.4 | 64.4 | 64.7 | 64.7 | 64.8 | 64.6 | 64.6 |
| Unemployed | 5,459 | 5,300 | 5,277 | 5,051 | 5,117 | 5,098 | 5,246 | 5,257 | 5,226 | 5,136 | 5,106 | 4,786 | 4,578 | 4,870 | 4,774 |
| Unemployment rate | 4.9 | 4.7 | 4.7 | 4.5 | 4.5 | 4.5 | 4.6 | 4.6 | 4.6 | 4.5 | 4.5 | 4.2 | 4.0 | 4.2 | 4.2 |
| **Black** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 23,246 | 23,604 | 23,611 | 23,650 | 23,690 | 23,728 | 23,762 | 23,794 | 23,847 | 23,872 | 23,895 | 23,923 | 23,950 | 23,978 | 24,006 |
| Civilian labor force | 14,817 | 15,134 | 15,212 | 15,297 | 15,184 | 15,276 | 15,290 | 15,306 | 15,372 | 15,408 | 15,439 | 15,365 | 15,434 | 15,398 | 15,510 |
| Participation rate | 63.7 | 64.1 | 64.4 | 64.7 | 64.1 | 64.4 | 64.3 | 64.3 | 64.5 | 64.5 | 64.6 | 64.2 | 64.4 | 64.2 | 64.6 |
| Employed | 13,279 | 13,542 | 13,612 | 13,699 | 13,566 | 13,647 | 13,673 | 13,693 | 13,709 | 13,672 | 13,784 | 13,863 | 13,837 | 13,793 | 14,055 |
| Employment-population ratio[2] | 57.1 | 57.4 | 57.7 | 57.9 | 57.3 | 57.5 | 57.5 | 57.5 | 57.5 | 57.3 | 57.7 | 57.9 | 57.8 | 57.5 | 58.5 |
| Unemployed | 1,538 | 1,592 | 1,600 | 1,598 | 1,618 | 1,629 | 1,617 | 1,613 | 1,663 | 1,736 | 1,655 | 1,503 | 1,597 | 1,605 | 1,455 |
| Unemployment rate | 10.4 | 10.5 | 10.5 | 10.4 | 10.7 | 10.7 | 10.6 | 10.5 | 10.8 | 11.3 | 10.7 | 9.8 | 10.3 | 10.4 | 9.4 |

See footnotes at end of table.

## 4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

| Employment status | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar | Apr. | May | June | July |
| **Hispanic origin** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 18,629 | 19,213 | 19,238 | 19,292 | 19,346 | 19,398 | 19,454 | 19,505 | 20,013 | 20,067 | 20,119 | 20,180 | 20,236 | 20,293 | 20,351 |
| Civilian labor force | 12,267 | 12,774 | 12,697 | 12,864 | 12,871 | 12,989 | 13,182 | 13,150 | 13,795 | 13,640 | 13,662 | 13,572 | 13,746 | 13,807 | 13,866 |
| Participation rate | 65.8 | 66.5 | 66.0 | 66.7 | 66.5 | 67.0 | 67.8 | 67.4 | 68.9 | 68.0 | 67.9 | 67.3 | 67.9 | 68.0 | 68.1 |
| Employed | 11,127 | 11,642 | 11,567 | 11,736 | 11,801 | 11,928 | 12,094 | 12,141 | 12,653 | 12,538 | 12,493 | 12,470 | 12,730 | 12,756 | 12,768 |
| Employment-population ratio[2] | 59.7 | 60.6 | 60.1 | 60.8 | 61.0 | 61.5 | 62.2 | 62.2 | 63.2 | 62.5 | 62.1 | 61.8 | 62.9 | 62.9 | 62.7 |
| Unemployed | 1,140 | 1,132 | 1,130 | 1,128 | 1,070 | 1,061 | 1,088 | 1,009 | 1,142 | 1,102 | 1,169 | 1,102 | 1,016 | 1,051 | 1,098 |
| Unemployment rate | 9.3 | 8.9 | 8.9 | 8.8 | 8.3 | 8.2 | 8.3 | 7.7 | 8.3 | 8.1 | 8.6 | 8.1 | 7.4 | 7.6 | 7.9 |

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

## 5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

| Selected categories | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov, | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| **Characteristic** | | | | | | | | | | | | | | | |
| Employed, 16 years and over | 124,900 | 126,708 | 126,889 | 126,988 | 127,248 | 127,617 | 127,644 | 127,855 | 128,580 | 128,430 | 129,175 | 129,384 | 129,639 | 129,364 | 129,708 |
| Men | 67,377 | 68,207 | 68,376 | 68,368 | 68,304 | 68,647 | 68,589 | 68,707 | 69,164 | 69,232 | 69,478 | 69,627 | 69,929 | 69,567 | 69,749 |
| Women | 57,523 | 58,501 | 58,513 | 58,620 | 58,944 | 58,970 | 59,055 | 59,148 | 59,416 | 59,197 | 59,697 | 59,756 | 59,710 | 59,796 | 59,958 |
| Married men, spouse present | 42,048 | 42,417 | 42,503 | 42,588 | 42,330 | 42,617 | 42,631 | 42,607 | 42,909 | 42,513 | 42,509 | 42,329 | 42,273 | 42,448 | 42,589 |
| Married women, spouse present | 32,063 | 32,406 | 32,634 | 32,665 | 32,679 | 32,537 | 32,509 | 32,631 | 32,826 | 32,578 | 32,699 | 32,473 | 32,445 | 32,519 | 32,866 |
| Women who maintain families | 7,164 | 7,363 | 7,253 | 7,338 | 7,420 | 7,392 | 7,444 | 7,500 | 7,501 | 7,556 | 7,720 | 7,838 | 7,858 | 7,847 | 7,901 |
| **Class of worker** | | | | | | | | | | | | | | | |
| Agriculture: | | | | | | | | | | | | | | | |
| Wage and salary workers | 1,814 | 1,869 | 1,860 | 1,814 | 1,834 | 1,813 | 1,829 | 1,878 | 1,988 | 1,932 | 1,905 | 1,989 | 1,941 | 1,929 | 1,913 |
| Self-employed workers | 1,580 | 1,518 | 1,546 | 1,525 | 1,557 | 1,560 | 1,464 | 1,475 | 1,448 | 1,353 | 1,414 | 1,424 | 1,444 | 1,404 | 1,492 |
| Unpaid family workers | 45 | 56 | 53 | 64 | 91 | 71 | 68 | 66 | 62 | 15 | 59 | 70 | 50 | 40 | 53 |
| Nonagricultural industries: | | | | | | | | | | | | | | | |
| Wage and salary workers | 112,448 | 114,171 | 114,278 | 114,539 | 114,765 | 115,018 | 115,133 | 115,212 | 115,560 | 115,987 | 116,533 | 116,608 | 116,969 | 116,653 | 117,104 |
| Government | 18,362 | 18,217 | 18,280 | 18,265 | 18,092 | 18,132 | 18,270 | 18,266 | 18,385 | 18,144 | 17,994 | 18,036 | 17,807 | 18,099 | 18,338 |
| Private industries | 94,086 | 95,954 | 95,998 | 96,274 | 96,673 | 96,886 | 96,863 | 96,946 | 97,176 | 97,843 | 98,539 | 98,572 | 99,162 | 98,554 | 98,766 |
| Private households | 963 | 928 | 930 | 973 | 981 | 992 | 956 | 934 | 1,002 | 882 | 869 | 922 | 967 | 870 | 910 |
| Other | 93,123 | 95,025 | 95,068 | 95,301 | 95,692 | 95,894 | 95,907 | 96,012 | 96,174 | 96,962 | 97,671 | 97,650 | 98,195 | 97,684 | 97,856 |
| Self-employed workers | 8,902 | 8,971 | 8,984 | 8,896 | 8,811 | 8,967 | 9,023 | 9,109 | 9,445 | 9,124 | 9,292 | 9,159 | 9,106 | 9,126 | 8,887 |
| Unpaid family workers | 110 | 122 | 128 | 122 | 129 | 137 | 140 | 149 | 162 | 136 | 108 | 130 | 148 | 128 | 131 |
| **Persons at work part time[1]** | | | | | | | | | | | | | | | |
| All industries: | | | | | | | | | | | | | | | |
| Part time for economic reasons | 4,473 | 4,315 | 4,338 | 4,339 | 4,302 | 4,286 | 3,983 | 4,338 | 4,426 | 4,262 | 4,153 | 4,402 | 4,019 | 4,025 | 4,017 |
| Slack work or business conditions | 2,471 | 2,388 | 2,552 | 2,437 | 2,398 | 2,258 | 2,107 | 2,353 | 2,423 | 2,378 | 2,344 | 2,491 | 2,300 | 2,375 | 2,211 |
| Could only find part-time work | 1,702 | 1,605 | 1,549 | 1,596 | 1,617 | 1,683 | 1,559 | 1,653 | 1,552 | 1,550 | 1,518 | 1,629 | 1,391 | 1,347 | 1,522 |
| Part time for noneconomic reasons | 17,734 | 17,770 | 17,877 | 18,184 | 17,823 | 17,754 | 17,957 | 17,868 | 18,340 | 18,070 | 18,120 | 18,176 | 18,336 | 18,322 | 18,015 |
| Nonagricultural industries: | | | | | | | | | | | | | | | |
| Part time for economic reasons | 4,279 | 4,123 | 4,150 | 4,182 | 4,130 | 4,118 | 3,815 | 4,162 | 4,163 | 4,098 | 3,937 | 4,235 | 3,806 | 3,782 | 3,872 |
| Slack work or business conditions | 2,346 | 2,263 | 2,422 | 2,310 | 2,284 | 2,147 | 2,001 | 2,214 | 2,310 | 2,277 | 2,210 | 2,374 | 2,159 | 2,220 | 2,102 |
| Could only find part-time work | 1,663 | 1,576 | 1,517 | 1,588 | 1,580 | 1,647 | 1,543 | 1,622 | 1,512 | 1,523 | 1,475 | 1,603 | 1,347 | 1,298 | 1,509 |
| Part time for noneconomic reasons | 17,093 | 17,150 | 17,250 | 17,555 | 17,204 | 17,123 | 17,313 | 17,237 | 17,737 | 17,452 | 17,565 | 17,661 | 17,780 | 17,663 | 17,418 |

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

## 6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

| Selected categories | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| **Characteristic** | | | | | | | | | | | | | | | |
| Total, all workers | 5.6 | 5.4 | 5.4 | 5.2 | 5.2 | 5.2 | 5.3 | 5.3 | 5.4 | 5.3 | 5.2 | 4.9 | 4.8 | 5.0 | 4.8 |
| Both sexes, 16 to 19 years | 17.3 | 16.7 | 16.7 | 17.0 | 16.0 | 16.3 | 16.8 | 16.5 | 17.0 | 17.5 | 16.4 | 15.4 | 15.6 | 16.8 | 16.4 |
| Men, 20 years and over | 4.8 | 4.6 | 4.6 | 4.2 | 4.5 | 4.4 | 4.4 | 4.4 | 4.6 | 4.4 | 4.4 | 4.2 | 3.8 | 4.2 | 4.0 |
| Women, 20 years and over | 4.9 | 4.8 | 4.9 | 4.7 | 4.6 | 4.7 | 4.8 | 4.9 | 4.6 | 4.7 | 4.7 | 4.4 | 4.5 | 4.4 | 4.2 |
| White, total | 4.9 | 4.7 | 4.7 | 4.5 | 4.5 | 4.5 | 4.6 | 4.6 | 4.6 | 4.5 | 4.5 | 4.2 | 4.0 | 4.2 | 4.2 |
| Both sexes, 16 to 19 years | 14.5 | 14.2 | 14.4 | 14.3 | 13.4 | 13.6 | 14.1 | 13.7 | 14.3 | 14.6 | 14.1 | 13.1 | 12.7 | 14.5 | 14.9 |
| Men, 16 to 19 years | 15.6 | 15.5 | 16.1 | 15.7 | 14.8 | 15.4 | 15.5 | 14.8 | 14.9 | 14.6 | 15.0 | 14.3 | 12.7 | 16.3 | 15.4 |
| Women, 16 to 19 years | 13.4 | 12.9 | 12.4 | 12.9 | 11.9 | 11.6 | 12.6 | 12.6 | 13.6 | 14.7 | 13.1 | 11.9 | 12.7 | 12.6 | 14.3 |
| Men, 20 years and over | 4.3 | 4.1 | 4.0 | 3.8 | 3.9 | 3.8 | 3.9 | 3.9 | 4.0 | 3.9 | 3.8 | 3.6 | 3.2 | 3.6 | 3.5 |
| Women, 20 years and over | 4.3 | 4.1 | 4.1 | 4.0 | 4.0 | 4.0 | 4.2 | 4.3 | 3.9 | 3.9 | 3.9 | 3.6 | 3.7 | 3.7 | 3.5 |
| Black, total | 10.4 | 10.5 | 10.5 | 10.4 | 10.7 | 10.7 | 10.6 | 10.5 | 10.8 | 11.3 | 10.7 | 9.8 | 10.3 | 10.4 | 9.4 |
| Both sexes, 16 to 19 years | 35.7 | 33.6 | 33.5 | 37.0 | 34.0 | 34.2 | 35.4 | 34.7 | 34.8 | 34.3 | 32.1 | 31.2 | 33.2 | 32.7 | 28.6 |
| Men, 16 to 19 years | 37.1 | 36.9 | 43.0 | 38.2 | 37.2 | 36.5 | 41.2 | 38.6 | 42.7 | 37.4 | 41.4 | 37.3 | 32.6 | 41.1 | 32.9 |
| Women, 16 to 19 years | 34.3 | 30.3 | 22.4 | 35.8 | 30.9 | 31.9 | 30.0 | 31.2 | 27.5 | 31.3 | 23.7 | 25.3 | 33.8 | 24.5 | 25.1 |
| Men, 20 years and over | 8.8 | 9.4 | 9.3 | 8.3 | 9.7 | 9.3 | 9.2 | 8.8 | 9.2 | 9.0 | 9.3 | 8.4 | 8.4 | 9.1 | 8.2 |
| Women, 20 years and over | 8.6 | 8.7 | 8.9 | 9.0 | 8.7 | 8.9 | 8.9 | 9.2 | 9.2 | 10.3 | 9.2 | 8.4 | 9.4 | 9.1 | 8.3 |
| Hispanic origin, total | 9.3 | 8.9 | 8.9 | 8.8 | 8.3 | 8.2 | 8.3 | 7.7 | 8.3 | 8.1 | 8.6 | 8.1 | 7.4 | 7.6 | 7.9 |
| Married men, spouse present | 3.3 | 3.0 | 3.0 | 2.9 | 3.0 | 3.0 | 3.0 | 3.0 | 2.8 | 2.8 | 2.8 | 2.7 | 2.6 | 2.7 | 2.6 |
| Married women, spouse present | 3.9 | 3.6 | 3.5 | 3.4 | 3.4 | 3.5 | 3.6 | 3.7 | 3.3 | 3.4 | 3.2 | 3.1 | 3.2 | 3.2 | 3.1 |
| Women who maintain families | 8.0 | 8.2 | 8.8 | 8.5 | 8.3 | 8.5 | 8.8 | 8.4 | 9.1 | 9.0 | 9.1 | 7.5 | 7.6 | 8.0 | 7.4 |
| Full-time workers | 5.5 | 5.3 | 5.3 | 5.0 | 5.1 | 5.1 | 5.3 | 5.2 | 5.2 | 5.1 | 5.1 | 4.8 | 4.7 | 4.9 | 4.7 |
| Part-time workers | 6.0 | 5.8 | 6.0 | 5.9 | 5.6 | 5.6 | 5.6 | 5.8 | 5.7 | 6.0 | 5.7 | 5.7 | 5.2 | 5.3 | 5.4 |
| **Industry** | | | | | | | | | | | | | | | |
| Nonagricultural wage and salary workers | 5.8 | 5.5 | 5.5 | 5.4 | 5.3 | 5.3 | 5.5 | 5.4 | 5.4 | 5.3 | 5.2 | 5.0 | 5.0 | 5.0 | 4.9 |
| Mining | 5.2 | 5.1 | 3.0 | 4.5 | 5.1 | 5.8 | 4.9 | 7.6 | 6.0 | 4.2 | 4.0 | 2.0 | 3.0 | 2.3 | 3.8 |
| Construction | 11.5 | 10.1 | 9.8 | 9.1 | 9.3 | 9.6 | 10.3 | 9.4 | 10.1 | 9.0 | 9.6 | 8.7 | 8.4 | 8.5 | 8.7 |
| Manufacturing | 4.9 | 4.8 | 4.7 | 4.7 | 4.4 | 4.7 | 4.7 | 4.8 | 4.6 | 4.5 | 4.3 | 4.4 | 4.2 | 4.1 | 4.3 |
| Durable goods | 4.4 | 4.5 | 4.3 | 4.0 | 4.2 | 4.4 | 4.5 | 4.7 | 4.4 | 4.0 | 3.6 | 3.6 | 3.5 | 3.5 | 3.4 |
| Nondurable goods | 5.7 | 5.2 | 5.3 | 5.8 | 4.7 | 5.1 | 5.1 | 5.0 | 4.8 | 5.3 | 5.2 | 5.8 | 5.3 | 5.0 | 5.5 |
| Transportation and public utilities | 4.5 | 4.1 | 4.3 | 4.1 | 4.1 | 4.4 | 3.5 | 4.0 | 4.1 | 4.3 | 4.1 | 2.8 | 3.6 | 2.9 | 3.4 |
| Wholesale and retail trade | 6.5 | 6.4 | 6.3 | 6.3 | 6.2 | 6.2 | 6.3 | 6.2 | 6.4 | 6.5 | 6.3 | 6.2 | 6.1 | 6.5 | 6.0 |
| Finance, insurance, and real estate | 3.3 | 2.7 | 2.8 | 2.5 | 3.0 | 2.9 | 2.9 | 3.1 | 3.5 | 3.0 | 3.2 | 3.4 | 3.2 | 2.5 | 3.2 |
| Services | 5.4 | 5.4 | 5.5 | 5.2 | 5.3 | 5.0 | 5.3 | 5.2 | 4.9 | 5.0 | 4.8 | 4.6 | 4.6 | 4.8 | 4.3 |
| Government workers | 2.9 | 2.9 | 3.1 | 2.8 | 3.0 | 2.9 | 2.8 | 3.0 | 2.9 | 2.9 | 2.8 | 2.4 | 2.4 | 2.9 | 2.8 |
| Agricultural wage and salary workers | 11.1 | 10.2 | 9.1 | 7.6 | 10.8 | 10.0 | 10.9 | 10.3 | 8.6 | 8.8 | 9.5 | 9.6 | 7.1 | 10.6 | 7.5 |

## 7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

| Weeks of unemployment | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| Less than 5 weeks | 2,700 | 2,633 | 2,603 | 2,534 | 2,522 | 2,556 | 2,819 | 2,671 | 2,801 | 2,591 | 2,650 | 2,354 | 2,523 | 2,538 | 2,352 |
| 5 to 14 weeks | 2,342 | 2,287 | 2,307 | 2,199 | 2,245 | 2,265 | 2,252 | 2,357 | 2,223 | 2,382 | 2,380 | 2,156 | 2,022 | 2,211 | 2,071 |
| 15 weeks and over | 2,363 | 2,316 | 2,326 | 2,273 | 2,277 | 2,294 | 2,184 | 2,179 | 2,155 | 2,163 | 2,064 | 2,092 | 2,071 | 2,063 | 2,157 |
| 15 to 26 weeks | 1,085 | 1,053 | 994 | 1,003 | 1,040 | 1,062 | 1,018 | 976 | 943 | 1,025 | 1,001 | 1,058 | 1,078 | 1,045 | 1,082 |
| 27 weeks and over | 1,278 | 1,262 | 1,332 | 1,270 | 1,237 | 1,232 | 1,166 | 1,203 | 1,212 | 1,138 | 1,063 | 1,034 | 993 | 1,018 | 1,074 |
| Mean duration, in weeks | 16.6 | 16.7 | 16.9 | 17.2 | 16.9 | 16.7 | 16.0 | 15.8 | 16.0 | 16.0 | 15.3 | 15.2 | 15.1 | 15.1 | 16.6 |
| Median duration, in weeks | 8.3 | 8.3 | 8.5 | 8.5 | 8.6 | 8.3 | 7.7 | 7.8 | 7.7 | 8.4 | 7.9 | 8.3 | 7.7 | 7.7 | 8.5 |

## 8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

| Reason for unemployment | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| Job losers[1] | 3,476 | 3,370 | 3,348 | 3,095 | 3,236 | 3,171 | 3,261 | 3,221 | 3,245 | 3,163 | 3,187 | 2,979 | 2,902 | 3,145 | 2,903 |
| On temporary layoff | 1,030 | 1,021 | 980 | 931 | 989 | 957 | 994 | 987 | 953 | 944 | 1,021 | 976 | 871 | 925 | 877 |
| Not on temporary layoff | 2,446 | 2,349 | 2,368 | 2,164 | 2,247 | 2,214 | 2,267 | 2,234 | 2,293 | 2,218 | 2,167 | 2,003 | 2,031 | 2,220 | 2,026 |
| Job leavers | 824 | 774 | 754 | 775 | 800 | 797 | 825 | 845 | 890 | 787 | 784 | 754 | 801 | 829 | 822 |
| Reentrants | 2,525 | 2,512 | 2,522 | 2,467 | 2,441 | 2,489 | 2,523 | 2,556 | 2,505 | 2,648 | 2,535 | 2,420 | 2,306 | 2,359 | 2,244 |
| New entrants | 579 | 580 | 590 | 552 | 559 | 577 | 586 | 626 | 600 | 647 | 647 | 577 | 574 | 481 | 553 |
| **Percent of unemployed** | | | | | | | | | | | | | | | |
| Job losers[1] | 46.9 | 46.6 | 46.4 | 44.9 | 46.0 | 45.1 | 45.3 | 44.4 | 44.8 | 43.7 | 44.6 | 44.3 | 44.1 | 46.2 | 44.5 |
| On temporary layoff | 13.9 | 14.1 | 13.6 | 13.5 | 14.1 | 13.6 | 13.8 | 13.6 | 13.2 | 13.0 | 14.3 | 14.5 | 13.2 | 13.6 | 13.4 |
| Not on temporary layoff | 33.0 | 32.5 | 32.8 | 31.4 | 31.9 | 31.5 | 31.5 | 30.8 | 31.7 | 30.6 | 30.3 | 29.8 | 30.9 | 32.6 | 31.1 |
| Job leavers | 11.1 | 10.7 | 10.5 | 11.2 | 11.4 | 11.3 | 11.5 | 11.7 | 12.3 | 10.9 | 11.0 | 11.2 | 12.2 | 12.2 | 12.6 |
| Reentrants | 34.1 | 34.7 | 35.0 | 35.8 | 34.7 | 35.4 | 35.1 | 35.3 | 34.6 | 36.6 | 35.4 | 36.0 | 35.0 | 34.6 | 34.4 |
| New entrants | 7.8 | 8.0 | 8.2 | 8.0 | 7.9 | 8.2 | 8.1 | 8.6 | 8.3 | 8.9 | 9.0 | 8.6 | 8.7 | 7.1 | 8.5 |
| **Percent of civilian labor force** | | | | | | | | | | | | | | | |
| Job losers[1] | 2.6 | 2.5 | 2.5 | 2.3 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.1 | 2.3 | 2.1 |
| Job leavers | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .6 | .7 | .6 | .6 | .6 | .6 | .6 | .6 |
| Reentrants | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| New entrants | .4 | .4 | .4 | .4 | .4 | .4 | .4 | .5 | .4 | .5 | .5 | .4 | .4 | .4 | .4 |

[1] Includes persons who completed temporary jobs.

## 9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

| Sex and age | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| Total, 16 years and over | 5.6 | 5.4 | 5.4 | 5.2 | 5.2 | 5.2 | 5.3 | 5.3 | 5.4 | 5.3 | 5.2 | 4.9 | 4.8 | 5.0 | 4.8 |
| 16 to 24 years | 12.1 | 12.0 | 12.1 | 11.7 | 11.5 | 11.7 | 11.9 | 11.9 | 12.2 | 12.0 | 11.8 | 11.4 | 10.9 | 11.5 | 10.9 |
| 16 to 19 years | 17.3 | 16.7 | 16.7 | 17.0 | 16.0 | 16.3 | 16.8 | 16.5 | 17.0 | 17.5 | 16.4 | 15.4 | 15.6 | 16.8 | 16.4 |
| 16 to 17 years | 20.2 | 18.9 | 19.5 | 18.9 | 17.6 | 18.0 | 17.0 | 19.3 | 17.7 | 19.7 | 19.4 | 18.5 | 18.4 | 17.3 | 17.5 |
| 18 to 19 years | 15.3 | 15.2 | 14.6 | 15.7 | 14.7 | 15.3 | 17.0 | 14.7 | 16.6 | 15.2 | 14.6 | 13.3 | 13.7 | 16.3 | 15.8 |
| 20 to 24 years | 9.1 | 9.3 | 9.5 | 8.6 | 8.9 | 8.9 | 9.0 | 9.1 | 9.4 | 8.7 | 9.0 | 9.0 | 8.2 | 8.4 | 7.7 |
| 25 years and over | 4.3 | 4.2 | 4.1 | 4.0 | 4.1 | 4.0 | 4.1 | 4.1 | 4.0 | 4.1 | 4.0 | 3.7 | 3.7 | 3.8 | 3.7 |
| 25 to 54 years | 4.5 | 4.3 | 4.3 | 4.1 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 4.1 | 3.8 | 3.8 | 3.9 | 3.8 |
| 55 years and over | 3.7 | 3.4 | 3.7 | 3.2 | 3.3 | 3.2 | 3.1 | 3.3 | 3.1 | 3.0 | 3.3 | 3.0 | 2.9 | 3.1 | 3.0 |
| Men, 16 years and over | 5.6 | 5.4 | 5.4 | 5.0 | 5.2 | 5.1 | 5.2 | 5.1 | 5.4 | 5.1 | 5.2 | 4.9 | 4.5 | 5.0 | 4.8 |
| 16 to 24 years | 12.5 | 12.6 | 13.1 | 12.0 | 12.1 | 12.3 | 12.5 | 12.3 | 12.9 | 12.0 | 12.2 | 11.8 | 10.3 | 12.1 | 11.4 |
| 16 to 19 years | 18.4 | 18.1 | 19.3 | 18.2 | 17.5 | 18.1 | 18.4 | 17.4 | 18.4 | 17.9 | 17.9 | 17.2 | 15.2 | 19.0 | 17.2 |
| 16 to 17 years | 21.1 | 20.8 | 23.4 | 21.5 | 19.2 | 19.6 | 18.9 | 20.6 | 20.4 | 19.6 | 21.4 | 20.5 | 17.8 | 19.9 | 18.6 |
| 18 to 19 years | 16.5 | 16.3 | 16.1 | 16.1 | 16.2 | 17.1 | 19.0 | 15.4 | 17.1 | 15.4 | 15.7 | 15.2 | 13.5 | 18.2 | 16.2 |
| 20 to 24 years | 9.2 | 9.5 | 9.6 | 8.4 | 9.0 | 8.9 | 9.2 | 9.3 | 9.8 | 8.6 | 8.9 | 8.7 | 7.5 | 8.2 | 8.1 |
| 25 years and over | 4.3 | 4.1 | 4.0 | 3.8 | 4.0 | 3.8 | 3.9 | 3.8 | 4.0 | 3.9 | 3.9 | 3.7 | 3.4 | 3.7 | 3.5 |
| 25 to 54 years | 4.4 | 4.2 | 4.1 | 3.9 | 4.2 | 4.0 | 4.0 | 3.9 | 4.1 | 4.0 | 3.9 | 3.8 | 3.5 | 3.8 | 3.6 |
| 55 years and over | 3.7 | 3.3 | 3.7 | 3.2 | 3.3 | 3.0 | 3.1 | 3.4 | 3.2 | 3.3 | 3.5 | 3.0 | 2.8 | 3.1 | 3.0 |
| Women, 16 years and over | 5.6 | 5.4 | 5.4 | 5.4 | 5.2 | 5.3 | 5.5 | 5.5 | 5.3 | 5.5 | 5.3 | 4.9 | 5.2 | 5.0 | 4.9 |
| 16 to 24 years | 11.6 | 11.3 | 11.0 | 11.5 | 10.9 | 11.0 | 11.3 | 11.4 | 11.4 | 11.9 | 11.3 | 10.9 | 11.6 | 10.8 | 10.4 |
| 16 to 19 years | 16.1 | 15.2 | 13.8 | 15.8 | 14.4 | 14.4 | 15.2 | 15.5 | 15.5 | 16.9 | 14.9 | 13.6 | 16.0 | 14.4 | 15.5 |
| 16 to 17 years | 19.2 | 16.9 | 15.2 | 16.3 | 16.0 | 16.2 | 15.1 | 18.1 | 14.9 | 19.7 | 17.1 | 16.5 | 19.0 | 14.4 | 16.4 |
| 18 to 19 years | 14.0 | 14.0 | 12.8 | 15.2 | 13.1 | 13.4 | 15.0 | 14.0 | 16.2 | 15.0 | 13.3 | 11.3 | 13.8 | 14.3 | 15.4 |
| 20 to 24 years | 9.0 | 9.0 | 9.3 | 8.9 | 8.7 | 8.9 | 8.9 | 8.9 | 8.9 | 8.8 | 9.1 | 9.3 | 8.9 | 8.6 | 7.3 |
| 25 years and over | 4.4 | 4.3 | 4.3 | 4.2 | 4.2 | 4.2 | 4.3 | 4.5 | 4.1 | 4.2 | 4.2 | 3.8 | 4.0 | 3.9 | 3.9 |
| 25 to 54 years | 4.5 | 4.4 | 4.5 | 4.3 | 4.2 | 4.4 | 4.5 | 4.7 | 4.3 | 4.5 | 4.3 | 3.9 | 4.2 | 4.0 | 4.1 |
| 55 years and over | 3.6 | 3.5 | 3.6 | 3.0 | 3.4 | 3.4 | 3.0 | 3.3 | 2.9 | 2.6 | 3.1 | 3.0 | 3.0 | 3.2 | 3.0 |

## 10. Unemployment rates by State, seasonally adjusted

| State | June 1996 | May 1997 | June 1997[p] | State | June 1996 | May 1997 | June 1997[p] |
|---|---|---|---|---|---|---|---|
| Alabama | 5.2 | 4.7 | 4.5 | Missouri | 4.5 | 4.1 | 3.9 |
| Alaska | 7.8 | 6.9 | 6.9 | Montana | 5.4 | 4.9 | 5.0 |
| Arizona | 5.7 | 4.7 | 4.3 | Nebraska | 3.0 | 2.3 | 2.4 |
| Arkansas | 5.4 | 4.6 | 5.1 | Nevada | 5.5 | 4.4 | 4.5 |
| California | 7.2 | 6.4 | 6.2 | New Hampshire | 4.3 | 2.8 | 2.9 |
| Colorado | 4.6 | 3.5 | 3.5 | New Jersey | 6.1 | 5.4 | 5.5 |
| Connecticut | 5.7 | 5.2 | 5.2 | New Mexico | 8.4 | 6.3 | 6.5 |
| Delaware | 5.1 | 4.1 | 4.3 | New York | 6.3 | 6.3 | 6.3 |
| District of Columbia | 8.5 | 6.8 | 6.7 | North Carolina | 4.3 | 3.5 | 3.6 |
| Florida | 5.1 | 5.0 | 4.9 | North Dakota | 3.2 | 3.3 | 2.7 |
| Georgia | 4.6 | 4.5 | 4.4 | Ohio | 4.9 | 4.6 | 4.2 |
| Hawaii | 6.4 | 5.9 | 6.2 | Oklahoma | 4.0 | 3.5 | 3.6 |
| Idaho | 5.2 | 4.8 | 4.9 | Oregon | 5.9 | 5.0 | 5.1 |
| Illinois | 5.3 | 4.4 | 4.4 | Pennsylvania | 5.3 | 5.2 | 5.4 |
| Indiana | 4.2 | 3.2 | 3.3 | Rhode Island | 5.0 | 5.7 | 5.9 |
| Iowa | 3.8 | 3.0 | 3.0 | South Carolina | 6.2 | 4.8 | 5.1 |
| Kansas | 4.6 | 4.0 | 3.8 | South Dakota | 3.2 | 2.7 | 2.8 |
| Kentucky | 5.6 | 5.2 | 5.1 | Tennessee | 5.1 | 4.9 | 5.3 |
| Louisiana | 6.8 | 6.3 | 6.3 | Texas | 5.7 | 5.4 | 5.4 |
| Maine | 5.3 | 4.8 | 4.7 | Utah | 3.5 | 3.0 | 3.1 |
| Maryland | 4.9 | 4.7 | 4.7 | Vermont | 4.6 | 3.8 | 3.8 |
| Massachusetts | 4.3 | 4.2 | 3.9 | Virginia | 4.4 | 4.3 | 4.3 |
| Michigan | 4.8 | 4.0 | 4.0 | Washington | 6.6 | 4.8 | 4.8 |
| Minnesota | 4.1 | 3.3 | 3.2 | West Virginia | 7.3 | 6.0 | 6.4 |
| Mississippi | 6.1 | 5.0 | 5.0 | Wisconsin | 3.5 | 3.4 | 3.6 |
| | | | | Wyoming | 5.2 | 4.8 | 4.9 |

[p] = preliminary

## 11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

| State | June 1996 | May 1997 | June 1997[p] | State | June 1996 | May 1997 | June 1997[p] |
|---|---|---|---|---|---|---|---|
| Alabama | 1,822.5 | 1,847.5 | 1,844.3 | Missouri | 2,558.8 | 2,609.0 | 2,611.4 |
| Alaska | 263.6 | 265.4 | 264.8 | Montana | 359.5 | 365.1 | 364.4 |
| Arizona | 1,886.8 | 1,972.1 | 1,979.8 | Nebraska | 833.3 | 847.5 | 847.8 |
| Arkansas | 1,085.8 | 1,097.9 | 1,098.9 | Nevada | 840.0 | 890.6 | 898.2 |
| California | 12,757.9 | 13,107.3 | 13,127.4 | New Hampshire | 564.0 | 572.8 | 573.8 |
| Colorado | 1,900.1 | 1,935.8 | 1,936.2 | New Jersey | 3,646.1 | 3,694.5 | 3,699.8 |
| Connecticut | 1,584.2 | 1,607.0 | 1,613.0 | New Mexico | 696.0 | 702.8 | 707.4 |
| Delaware | 379.3 | 387.6 | 387.9 | New York | 7,923.7 | 7,994.4 | 7,997.4 |
| District of Columbia | 617.9 | 613.2 | 614.6 | North Carolina | 3,552.7 | 3,636.8 | 3,639.4 |
| Florida | 6,161.8 | 6,384.0 | 6,400.5 | North Dakota | 308.5 | 315.3 | 317.6 |
| Georgia | 3,538.8 | 3,584.4 | 3,588.9 | Ohio | 5,301.4 | 5,347.7 | 5,356.2 |
| Hawaii | 529.3 | 528.1 | 527.9 | Oklahoma | 1,352.8 | 1,386.4 | 1,386.7 |
| Idaho | 491.5 | 503.5 | 502.8 | Oregon | 1,470.1 | 1,523.5 | 1,525.8 |
| Illinois | 5,673.5 | 5,743.3 | 5,755.2 | Pennsylvania | 5,298.4 | 5,422.2 | 5,414.6 |
| Indiana | 2,819.4 | 2,852.2 | 2,851.3 | Rhode Island | 441.6 | 445.1 | 443.1 |
| Iowa | 1,380.1 | 1,403.2 | 1,407.7 | South Carolina | 1,688.3 | 1,703.3 | 1,705.3 |
| Kansas | 1,225.5 | 1,263.2 | 1,262.6 | South Dakota | 348.0 | 354.4 | 353.0 |
| Kentucky | 1,668.2 | 1,709.7 | 1,709.7 | Tennessee | 2,532.3 | 2,550.1 | 2,552.8 |
| Louisiana | 1,811.7 | 1,835.8 | 1,840.3 | Texas | 8,225.9 | 8,442.2 | 8,445.1 |
| Maine | 540.6 | 546.4 | 547.8 | Utah | 953.5 | 989.2 | 994.7 |
| Maryland | 2,212.6 | 2,244.7 | 2,253.1 | Vermont | 274.9 | 278.5 | 279.3 |
| Massachusetts | 3,033.3 | 3,103.1 | 3,105.9 | Virginia | 3,122.5 | 3,200.9 | 3,206.7 |
| Michigan | 4,347.1 | 4,409.8 | 4,404.4 | Washington | 2,401.4 | 2,485.0 | 2,497.8 |
| Minnesota | 2,430.7 | 2,478.7 | 2,488.8 | West Virginia | 698.6 | 707.9 | 709.9 |
| Mississippi | 1,090.6 | 1,101.7 | 1,100.5 | Wisconsin | 2,600.3 | 2,645.1 | 2,651.8 |
| | | | | Wyoming | 221.0 | 221.7 | 219.8 |

[p] = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

## 12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[p] | July[p] |
| **TOTAL** | 117,191 | 119,523 | 119,691 | 119,983 | 120,019 | 120,248 | 120,450 | 120,659 | 120,909 | 121,162 | 121,344 | 121,671 | 121,834 | 122,062 | 122,378 |
| **PRIVATE SECTOR** | 97,885 | 100,076 | 100,236 | 100,433 | 100,506 | 100,759 | 100,956 | 101,145 | 101,380 | 101,615 | 101,799 | 102,092 | 102,269 | 102,420 | 102,680 |
| **GOODS-PRODUCING** | 24,265 | 24,431 | 24,433 | 24,468 | 24,439 | 24,479 | 24,508 | 24,540 | 24,581 | 24,653 | 24,670 | 24,667 | 24,702 | 24,720 | 24,716 |
| **Mining**[1] | 581 | 574 | 574 | 574 | 571 | 570 | 571 | 571 | 574 | 574 | 572 | 573 | 576 | 576 | 574 |
| Metal mining | 51 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 55 | 54 | 54 | 54 | 54 | 54 | 54 |
| Oil and gas extraction | 320 | 317 | 317 | 318 | 316 | 315 | 316 | 316 | 317 | 319 | 317 | 319 | 321 | 321 | 321 |
| Nonmetallic minerals, except fuels | 105 | 106 | 108 | 108 | 108 | 108 | 109 | 109 | 108 | 108 | 108 | 107 | 108 | 108 | 108 |
| **Construction** | 5,160 | 5,400 | 5,417 | 5,433 | 5,441 | 5,467 | 5,495 | 5,521 | 5,542 | 5,604 | 5,609 | 5,599 | 5,628 | 5,624 | 5,627 |
| General building contractors | 1,207 | 1,254 | 1,258 | 1,261 | 1,259 | 1,265 | 1,272 | 1,281 | 1,287 | 1,298 | 1,298 | 1,297 | 1,300 | 1,302 | 1,307 |
| Heavy construction, except building | 752 | 770 | 773 | 774 | 771 | 771 | 773 | 772 | 774 | 791 | 777 | 787 | 777 | 765 | 762 |
| Special trades contractors | 3,201 | 3,377 | 3,386 | 3,398 | 3,411 | 3,431 | 3,450 | 3,468 | 3,481 | 3,515 | 3,534 | 3,535 | 3,551 | 3,557 | 3,558 |
| **Manufacturing** | 18,524 | 18,457 | 18,442 | 18,461 | 18,427 | 18,442 | 18,442 | 18,448 | 18,465 | 18,475 | 18,489 | 18,495 | 18,498 | 18,520 | 18,515 |
| Production workers | 12,826 | 12,749 | 12,735 | 12,749 | 12,723 | 12,731 | 12,737 | 12,743 | 12,758 | 12,762 | 12,771 | 12,774 | 12,790 | 12,790 | 12,797 |
| **Durable goods** | 10,683 | 10,768 | 10,766 | 10,788 | 10,771 | 10,780 | 10,791 | 10,803 | 10,821 | 10,836 | 10,848 | 10,856 | 10,864 | 10,890 | 10,910 |
| Production workers | 7,317 | 7,370 | 7,369 | 7,389 | 7,372 | 7,379 | 7,390 | 7,398 | 7,417 | 7,427 | 7,437 | 7,440 | 7,454 | 7,463 | 7,480 |
| Lumber and wood products | 769 | 780 | 781 | 783 | 782 | 785 | 787 | 788 | 789 | 793 | 797 | 799 | 800 | 798 | 796 |
| Furniture and fixtures | 510 | 504 | 503 | 502 | 503 | 503 | 504 | 505 | 506 | 507 | 507 | 506 | 508 | 509 | 512 |
| Stone, clay, and glass products | 540 | 541 | 540 | 540 | 541 | 542 | 541 | 543 | 543 | 543 | 542 | 541 | 540 | 539 | 542 |
| Primary metal industries | 712 | 711 | 706 | 712 | 711 | 707 | 708 | 707 | 708 | 708 | 709 | 710 | 708 | 709 | 706 |
| Fabricated metal products | 1,437 | 1,448 | 1,449 | 1,451 | 1,452 | 1,455 | 1,457 | 1,458 | 1,460 | 1,462 | 1,463 | 1,468 | 1,468 | 1,469 | 1,468 |
| Industrial machinery and equipment | 2,067 | 2,112 | 2,113 | 2,114 | 2,108 | 2,115 | 2,115 | 2,119 | 2,126 | 2,132 | 2,136 | 2,142 | 2,146 | 2,149 | 2,154 |
| Computer and office equipment | 352 | 363 | 362 | 364 | 364 | 364 | 365 | 366 | 367 | 370 | 372 | 375 | 378 | 379 | 381 |
| Electronic and other electrical equipment | 1,625 | 1,651 | 1,655 | 1,654 | 1,652 | 1,650 | 1,649 | 1,647 | 1,645 | 1,645 | 1,645 | 1,643 | 1,644 | 1,651 | 1,656 |
| Electronic components and accessories | 581 | 610 | 613 | 612 | 610 | 609 | 609 | 609 | 610 | 612 | 614 | 618 | 622 | 628 | 632 |
| Transportation equipment | 1,790 | 1,781 | 1,778 | 1,791 | 1,783 | 1,783 | 1,790 | 1,793 | 1,802 | 1,804 | 1,810 | 1,804 | 1,809 | 1,823 | 1,829 |
| Motor vehicles and equipment | 971 | 963 | 960 | 968 | 965 | 959 | 960 | 961 | 966 | 964 | 969 | 957 | 960 | 967 | 969 |
| Aircraft and parts | 451 | 460 | 458 | 459 | 461 | 470 | 475 | 479 | 483 | 487 | 491 | 495 | 498 | 505 | 509 |
| Instruments and related products | 843 | 854 | 854 | 855 | 854 | 855 | 854 | 856 | 854 | 854 | 853 | 855 | 854 | 857 | 859 |
| Miscellaneous manufacturing industries | 390 | 387 | 387 | 386 | 385 | 385 | 386 | 387 | 388 | 388 | 386 | 388 | 387 | 386 | 388 |
| **Nondurable goods** | 7,841 | 7,691 | 7,676 | 7,673 | 7,656 | 7,662 | 7,651 | 7,645 | 7,644 | 7,639 | 7,641 | 7,639 | 7,634 | 7,630 | 7,605 |
| Production workers | 5,508 | 5,379 | 5,368 | 5,360 | 5,351 | 5,352 | 5,347 | 5,345 | 5,341 | 5,335 | 5,334 | 5,334 | 5,336 | 5,327 | 5,317 |
| Food and kindred products | 1,692 | 1,693 | 1,684 | 1,685 | 1,682 | 1,684 | 1,688 | 1,689 | 1,695 | 1,694 | 1,698 | 1,699 | 1,693 | 1,693 | 1,685 |
| Tobacco products | 42 | 41 | 41 | 40 | 41 | 42 | 42 | 42 | 41 | 42 | 42 | 41 | 41 | 41 | 41 |
| Textile mill products | 663 | 624 | 623 | 621 | 618 | 620 | 616 | 615 | 615 | 612 | 612 | 609 | 609 | 608 | 605 |
| Apparel and other textile products | 936 | 864 | 863 | 857 | 853 | 849 | 844 | 840 | 835 | 831 | 827 | 822 | 818 | 817 | 813 |
| Paper and allied products | 693 | 681 | 677 | 678 | 678 | 679 | 679 | 678 | 678 | 678 | 677 | 677 | 677 | 675 | 673 |
| Printing and publishing | 1,546 | 1,538 | 1,537 | 1,537 | 1,536 | 1,539 | 1,535 | 1,534 | 1,534 | 1,534 | 1,535 | 1,541 | 1,546 | 1,551 | 1,548 |
| Chemicals and allied products | 1,038 | 1,032 | 1,031 | 1,032 | 1,029 | 1,029 | 1,028 | 1,028 | 1,028 | 1,028 | 1,028 | 1,029 | 1,030 | 1,026 | 1,024 |
| Petroleum and coal products | 145 | 142 | 142 | 142 | 141 | 141 | 141 | 140 | 139 | 139 | 140 | 140 | 139 | 138 | 139 |
| Rubber and miscellaneous plastics products | 980 | 981 | 982 | 986 | 984 | 985 | 985 | 985 | 985 | 987 | 988 | 988 | 988 | 989 | 987 |
| Leather and leather products | 106 | 96 | 96 | 95 | 94 | 94 | 93 | 94 | 94 | 94 | 94 | 93 | 93 | 92 | 90 |
| **SERVICE-PRODUCING** | 92,925 | 95,092 | 95,258 | 95,515 | 95,580 | 95,769 | 95,942 | 96,119 | 96,328 | 96,509 | 96,674 | 97,004 | 97,132 | 97,342 | 97,662 |
| **Transportation and public utilities** | 6,132 | 6,261 | 6,296 | 6,299 | 6,290 | 6,293 | 6,303 | 6,288 | 6,351 | 6,376 | 6,405 | 6,421 | 6,431 | 6,430 | 6,461 |
| Transportation | 3,904 | 4,038 | 4,073 | 4,075 | 4,066 | 4,072 | 4,078 | 4,065 | 4,121 | 4,142 | 4,164 | 4,179 | 4,187 | 4,190 | 4,216 |
| Railroad transportation | 238 | 231 | 230 | 230 | 230 | 230 | 229 | 228 | 228 | 227 | 226 | 225 | 226 | 226 | 226 |
| Local and interurban passenger transit | 419 | 439 | 448 | 448 | 444 | 445 | 447 | 449 | 452 | 453 | 455 | 460 | 458 | 457 | 461 |
| Trucking and warehousing | 1,587 | 1,641 | 1,659 | 1,656 | 1,651 | 1,648 | 1,649 | 1,642 | 1,656 | 1,664 | 1,671 | 1,676 | 1,687 | 1,687 | 1,699 |
| Water transportation | 175 | 173 | 173 | 174 | 173 | 173 | 173 | 173 | 175 | 175 | 175 | 177 | 176 | 177 | 179 |
| Transportation by air | 1,068 | 1,122 | 1,131 | 1,134 | 1,134 | 1,140 | 1,142 | 1,133 | 1,168 | 1,178 | 1,191 | 1,192 | 1,192 | 1,193 | 1,200 |
| Pipelines, except natural gas | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Transportation services | 401 | 417 | 417 | 419 | 420 | 422 | 424 | 426 | 428 | 431 | 432 | 435 | 434 | 436 | 437 |
| Communications and public utilities | 2,229 | 2,223 | 2,223 | 2,224 | 2,224 | 2,221 | 2,225 | 2,223 | 2,230 | 2,234 | 2,241 | 2,242 | 2,244 | 2,240 | 2,245 |
| Communications | 1,318 | 1,338 | 1,341 | 1,344 | 1,345 | 1,343 | 1,347 | 1,347 | 1,354 | 1,358 | 1,364 | 1,369 | 1,372 | 1,371 | 1,377 |
| Electric, gas, and sanitary services | 911 | 885 | 882 | 880 | 879 | 878 | 878 | 876 | 876 | 876 | 877 | 873 | 872 | 869 | 868 |
| **Wholesale trade** | 6,378 | 6,483 | 6,481 | 6,497 | 6,513 | 6,538 | 6,549 | 6,559 | 6,570 | 6,593 | 6,611 | 6,622 | 6,630 | 6,634 | 6,663 |
| **Retail trade** | 21,187 | 21,625 | 21,651 | 21,692 | 21,718 | 21,791 | 21,847 | 21,912 | 21,917 | 21,922 | 21,945 | 22,029 | 22,026 | 22,077 | 22,142 |
| Building materials and garden supplies | 868 | 892 | 894 | 896 | 901 | 905 | 909 | 914 | 914 | 918 | 922 | 931 | 932 | 928 | 932 |
| General merchandise stores | 2,681 | 2,726 | 2,731 | 2,737 | 2,739 | 2,756 | 2,761 | 2,769 | 2,757 | 2,752 | 2,783 | 2,799 | 2,787 | 2,797 | 2,793 |
| Department stores | 2,346 | 2,388 | 2,394 | 2,401 | 2,403 | 2,416 | 2,418 | 2,425 | 2,420 | 2,416 | 2,452 | 2,446 | 2,452 | 2,450 | 2,449 |

See footnotes at end of table.

## 12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[p] | July[p] |
| Food stores | 3,366 | 3,435 | 3,439 | 3,445 | 3,445 | 3,458 | 3,467 | 3,468 | 3,474 | 3,477 | 3,478 | 3,480 | 3,482 | 3,486 | 3,507 |
| Automotive dealers and service stations | 2,190 | 2,270 | 2,278 | 2,284 | 2,289 | 2,295 | 2,300 | 2,304 | 2,307 | 2,311 | 2,315 | 2,319 | 2,316 | 2,313 | 2,316 |
| New and used car dealers | 996 | 1,032 | 1,036 | 1,038 | 1,040 | 1,043 | 1,045 | 1,048 | 1,051 | 1,053 | 1,055 | 1,055 | 1,054 | 1,055 | 1,055 |
| Apparel and accessory stores | 1,125 | 1,101 | 1,101 | 1,101 | 1,101 | 1,107 | 1,107 | 1,106 | 1,107 | 1,103 | 1,104 | 1,105 | 1,099 | 1,099 | 1,092 |
| Furniture and home furnishings stores | 946 | 985 | 989 | 994 | 998 | 1,003 | 1,010 | 1,021 | 1,020 | 1,022 | 1,025 | 1,026 | 1,032 | 1,033 | 1,040 |
| Eating and drinking places | 7,354 | 7,499 | 7,505 | 7,510 | 7,509 | 7,516 | 7,530 | 7,551 | 7,552 | 7,556 | 7,525 | 7,571 | 7,572 | 7,596 | 7,631 |
| Miscellaneous retail establishments | 2,658 | 2,717 | 2,714 | 2,725 | 2,736 | 2,751 | 2,763 | 2,779 | 2,786 | 2,783 | 2,793 | 2,798 | 2,806 | 2,825 | 2,831 |
| **Finance, insurance, and real estate** | 6,806 | 6,899 | 6,910 | 6,917 | 6,925 | 6,941 | 6,949 | 6,962 | 6,971 | 6,980 | 6,992 | 7,019 | 7,029 | 7,038 | 7,064 |
| Finance | 3,231 | 3,301 | 3,305 | 3,313 | 3,317 | 3,330 | 3,334 | 3,343 | 3,351 | 3,355 | 3,366 | 3,381 | 3,389 | 3,396 | 3,407 |
| Depository institutions | 2,025 | 2,024 | 2,023 | 2,022 | 2,023 | 2,028 | 2,029 | 2,030 | 2,032 | 2,034 | 2,037 | 2,041 | 2,043 | 2,046 | 2,051 |
| Commercial banks | 1,466 | 1,466 | 1,466 | 1,466 | 1,468 | 1,472 | 1,473 | 1,475 | 1,478 | 1,479 | 1,482 | 1,486 | 1,488 | 1,488 | 1,493 |
| Savings institutions | 276 | 263 | 263 | 262 | 259 | 259 | 257 | 256 | 255 | 255 | 254 | 253 | 253 | 254 | 254 |
| Nondepository institutions | 463 | 516 | 519 | 523 | 525 | 528 | 530 | 532 | 533 | 530 | 534 | 539 | 542 | 543 | 546 |
| Security and commodity brokers | 525 | 551 | 553 | 557 | 558 | 562 | 564 | 568 | 572 | 576 | 579 | 583 | 586 | 586 | 591 |
| Holding and other investment offices | 217 | 210 | 210 | 211 | 211 | 212 | 211 | 213 | 214 | 215 | 216 | 218 | 218 | 221 | 219 |
| Insurance | 2,225 | 2,217 | 2,220 | 2,217 | 2,220 | 2,219 | 2,220 | 2,221 | 2,218 | 2,219 | 2,217 | 2,221 | 2,222 | 2,226 | 2,233 |
| Insurance carriers | 1,529 | 1,510 | 1,513 | 1,510 | 1,510 | 1,508 | 1,507 | 1,507 | 1,505 | 1,503 | 1,500 | 1,502 | 1,503 | 1,507 | 1,513 |
| Insurance agents, brokers, and service | 696 | 707 | 707 | 707 | 710 | 711 | 713 | 714 | 713 | 716 | 717 | 719 | 718 | 719 | 720 |
| Real estate | 1,351 | 1,381 | 1,385 | 1,387 | 1,388 | 1,392 | 1,395 | 1,398 | 1,402 | 1,406 | 1,409 | 1,417 | 1,418 | 1,416 | 1,424 |
| **Services**[1] | 33,117 | 34,377 | 34,465 | 34,560 | 34,621 | 34,717 | 34,800 | 34,884 | 34,990 | 35,091 | 35,176 | 35,334 | 35,451 | 35,521 | 35,634 |
| Agricultural services | 582 | 625 | 628 | 631 | 630 | 635 | 639 | 638 | 647 | 649 | 648 | 664 | 669 | 670 | 676 |
| Hotels and other lodging places | 1,668 | 1,716 | 1,718 | 1,718 | 1,722 | 1,726 | 1,731 | 1,738 | 1,743 | 1,746 | 1,746 | 1,756 | 1,752 | 1,746 | 1,748 |
| Personal services | 1,163 | 1,184 | 1,184 | 1,187 | 1,189 | 1,193 | 1,194 | 1,194 | 1,195 | 1,197 | 1,196 | 1,193 | 1,189 | 1,193 | 1,194 |
| Business services | 6,812 | 7,254 | 7,288 | 7,330 | 7,354 | 7,379 | 7,398 | 7,437 | 7,476 | 7,521 | 7,577 | 7,594 | 7,618 | 7,645 | 7,675 |
| Services to buildings | 882 | 897 | 898 | 898 | 898 | 899 | 896 | 895 | 893 | 897 | 896 | 902 | 903 | 902 | 900 |
| Personnel supply services | 2,476 | 2,646 | 2,683 | 2,699 | 2,706 | 2,711 | 2,706 | 2,721 | 2,743 | 2,758 | 2,787 | 2,752 | 2,744 | 2,748 | 2,759 |
| Help supply services | 2,189 | 2,341 | 2,376 | 2,392 | 2,398 | 2,398 | 2,391 | 2,406 | 2,427 | 2,432 | 2,457 | 2,419 | 2,409 | 2,407 | 2,411 |
| Computer and data processing services | 1,090 | 1,208 | 1,209 | 1,218 | 1,226 | 1,236 | 1,246 | 1,256 | 1,268 | 1,278 | 1,291 | 1,306 | 1,322 | 1,337 | 1,349 |
| Auto repair services and parking | 1,020 | 1,084 | 1,087 | 1,094 | 1,097 | 1,104 | 1,107 | 1,112 | 1,117 | 1,123 | 1,126 | 1,132 | 1,136 | 1,131 | 1,139 |
| Miscellaneous repair services | 359 | 375 | 375 | 376 | 377 | 376 | 380 | 380 | 380 | 379 | 380 | 382 | 384 | 383 | 385 |
| Motion pictures | 488 | 522 | 527 | 526 | 530 | 529 | 528 | 530 | 530 | 532 | 529 | 528 | 532 | 535 | 535 |
| Amusement and recreation services | 1,417 | 1,466 | 1,472 | 1,474 | 1,471 | 1,478 | 1,481 | 1,483 | 1,490 | 1,495 | 1,494 | 1,503 | 1,542 | 1,561 | 1,568 |
| Health services | 9,230 | 9,469 | 9,478 | 9,493 | 9,514 | 9,532 | 9,552 | 9,567 | 9,586 | 9,600 | 9,612 | 9,644 | 9,673 | 9,670 | 9,701 |
| Offices and clinics of medical doctors | 1,609 | 1,679 | 1,682 | 1,687 | 1,691 | 1,695 | 1,700 | 1,703 | 1,713 | 1,720 | 1,721 | 1,728 | 1,740 | 1,740 | 1,747 |
| Nursing and personal care facilities | 1,691 | 1,732 | 1,735 | 1,737 | 1,739 | 1,742 | 1,745 | 1,747 | 1,750 | 1,751 | 1,753 | 1,760 | 1,764 | 1,761 | 1,764 |
| Hospitals | 3,772 | 3,814 | 3,812 | 3,813 | 3,823 | 3,829 | 3,834 | 3,839 | 3,841 | 3,846 | 3,852 | 3,857 | 3,864 | 3,867 | 3,879 |
| Home health care services | 629 | 665 | 665 | 667 | 668 | 670 | 674 | 673 | 677 | 676 | 678 | 684 | 682 | 682 | 684 |
| Legal services | 921 | 930 | 931 | 933 | 933 | 936 | 939 | 940 | 942 | 943 | 946 | 951 | 952 | 953 | 957 |
| Educational services | 1,965 | 2,020 | 2,034 | 2,031 | 2,022 | 2,035 | 2,041 | 2,040 | 2,042 | 2,046 | 2,047 | 2,062 | 2,062 | 2,070 | 2,062 |
| Social services | 2,336 | 2,403 | 2,411 | 2,415 | 2,421 | 2,422 | 2,425 | 2,426 | 2,432 | 2,438 | 2,445 | 2,458 | 2,466 | 2,472 | 2,466 |
| Child day care services | 563 | 569 | 570 | 572 | 573 | 576 | 576 | 575 | 578 | 579 | 580 | 581 | 587 | 589 | 593 |
| Residential care | 643 | 672 | 674 | 677 | 678 | 679 | 681 | 683 | 684 | 686 | 690 | 694 | 695 | 698 | 698 |
| Museums and botanical and zoological gardens | 80 | 85 | 85 | 85 | 85 | 86 | 86 | 87 | 87 | 87 | 87 | 87 | 88 | 88 | 88 |
| Membership organizations | 2,146 | 2,185 | 2,183 | 2,191 | 2,188 | 2,189 | 2,190 | 2,191 | 2,192 | 2,192 | 2,193 | 2,199 | 2,201 | 2,202 | 2,211 |
| Engineering and management services | 2,731 | 2,846 | 2,849 | 2,860 | 2,872 | 2,882 | 2,894 | 2,906 | 2,916 | 2,927 | 2,934 | 2,965 | 2,971 | 2,986 | 3,012 |
| Engineering and architectural services | 815 | 839 | 838 | 841 | 845 | 848 | 852 | 854 | 857 | 862 | 866 | 869 | 869 | 876 | 877 |
| Management and public relations | 805 | 873 | 874 | 879 | 886 | 892 | 904 | 911 | 913 | 919 | 923 | 936 | 941 | 950 | 964 |
| **Government** | 19,305 | 19,447 | 19,455 | 19,550 | 19,513 | 19,489 | 19,494 | 19,514 | 19,529 | 19,547 | 19,545 | 19,579 | 19,565 | 19,642 | 19,698 |
| Federal | 2,822 | 2,757 | 2,752 | 2,743 | 2,740 | 2,732 | 2,732 | 2,728 | 2,723 | 2,716 | 2,709 | 2,708 | 2,703 | 2,694 | 2,695 |
| Federal, except Postal Service | 1,978 | 1,901 | 1,897 | 1,889 | 1,884 | 1,879 | 1,874 | 1,870 | 1,862 | 1,861 | 1,856 | 1,856 | 1,851 | 1,843 | 1,841 |
| State | 4,635 | 4,624 | 4,625 | 4,637 | 4,640 | 4,618 | 4,620 | 4,621 | 4,621 | 4,624 | 4,622 | 4,635 | 4,636 | 4,634 | 4,645 |
| Education | 1,919 | 1,924 | 1,931 | 1,937 | 1,941 | 1,922 | 1,925 | 1,927 | 1,928 | 1,931 | 1,929 | 1,938 | 1,943 | 1,943 | 1,954 |
| Other State government | 2,715 | 2,700 | 2,694 | 2,700 | 2,699 | 2,696 | 2,695 | 2,694 | 2,693 | 2,693 | 2,693 | 2,697 | 2,693 | 2,691 | 2,691 |
| Local | 11,849 | 12,066 | 12,078 | 12,170 | 12,133 | 12,139 | 12,142 | 12,165 | 12,185 | 12,207 | 12,214 | 12,236 | 12,226 | 12,314 | 12,358 |
| Education | 6,606 | 6,748 | 6,767 | 6,837 | 6,796 | 6,797 | 6,807 | 6,815 | 6,831 | 6,849 | 6,853 | 6,858 | 6,850 | 6,908 | 6,956 |
| Other local government | 5,243 | 5,318 | 5,311 | 5,333 | 5,337 | 5,342 | 5,335 | 5,350 | 5,354 | 5,358 | 5,361 | 5,378 | 5,376 | 5,406 | 5,402 |

[1] Includes other industries not shown separately.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

## 13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[p] | July[p] |
| PRIVATE SECTOR | 34.5 | 34.4 | 34.3 | 34.5 | 34.7 | 34.4 | 34.5 | 34.7 | 34.4 | 34.8 | 34.8 | 34.5 | 34.5 | 34.7 | 34.4 |
| GOODS-PRODUCING | 41.0 | 41.1 | 41.0 | 41.1 | 41.1 | 41.1 | 41.1 | 41.3 | 41.1 | 41.2 | 41.4 | 41.4 | 41.4 | 41.2 | 41.1 |
| MINING | 44.7 | 45.3 | 45.0 | 45.2 | 45.3 | 45.4 | 45.3 | 45.7 | 44.7 | 45.8 | 45.9 | 45.3 | 46.0 | 45.4 | 44.8 |
| MANUFACTURING | 41.6 | 41.6 | 41.6 | 41.7 | 41.7 | 41.7 | 41.7 | 42.0 | 41.8 | 41.9 | 42.1 | 42.1 | 42.0 | 41.8 | 41.7 |
| Overtime hours | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.6 | 4.7 | 4.7 | 4.7 | 4.9 | 4.9 | 4.8 | 4.7 | 4.6 |
| Durable goods | 42.4 | 42.4 | 42.4 | 42.5 | 42.5 | 42.4 | 42.5 | 42.7 | 42.5 | 42.7 | 42.9 | 43.0 | 42.8 | 42.6 | 42.5 |
| Overtime hours | 4.7 | 4.8 | 4.7 | 4.8 | 4.8 | 4.7 | 4.8 | 4.9 | 5.0 | 5.0 | 5.2 | 5.3 | 5.2 | 5.0 | 4.9 |
| Lumber and wood products | 40.6 | 40.8 | 41.0 | 40.9 | 40.9 | 40.8 | 40.9 | 41.0 | 40.7 | 40.8 | 41.0 | 41.2 | 41.0 | 41.0 | 40.9 |
| Furniture and fixtures | 39.6 | 39.4 | 39.7 | 39.6 | 39.6 | 39.6 | 39.8 | 40.1 | 39.8 | 39.9 | 40.3 | 40.1 | 40.4 | 39.9 | 39.9 |
| Stone, clay, and glass products | 43.0 | 43.3 | 43.2 | 43.2 | 43.2 | 43.3 | 43.2 | 43.4 | 42.6 | 43.3 | 43.1 | 43.0 | 43.4 | 42.9 | 43.1 |
| Primary metal industries | 44.0 | 44.2 | 44.0 | 44.3 | 44.4 | 44.4 | 44.3 | 44.6 | 44.4 | 44.6 | 44.8 | 45.1 | 44.8 | 44.7 | 44.0 |
| Blast furnaces and basic steel products | 44.4 | 44.5 | 44.3 | 44.3 | 44.3 | 44.6 | 44.6 | 44.6 | 44.7 | 44.6 | 44.8 | 45.2 | 44.7 | 44.5 | 43.7 |
| Fabricated metal products | 42.4 | 42.4 | 42.4 | 42.4 | 42.4 | 42.3 | 42.3 | 42.4 | 42.4 | 42.5 | 42.6 | 42.9 | 42.6 | 42.5 | 42.6 |
| Industrial machinery and equipment | 43.4 | 43.1 | 43.0 | 43.0 | 43.1 | 43.0 | 43.1 | 43.3 | 43.2 | 43.4 | 43.5 | 43.9 | 43.6 | 43.4 | 43.5 |
| Electronic and other electrical equipment | 41.6 | 41.5 | 41.3 | 41.6 | 41.6 | 41.5 | 41.5 | 41.8 | 41.3 | 41.9 | 42.1 | 42.3 | 42.0 | 41.9 | 41.6 |
| Transportation equipment | 43.8 | 44.0 | 44.0 | 44.4 | 44.4 | 44.0 | 44.3 | 44.6 | 44.7 | 44.6 | 45.0 | 44.8 | 44.5 | 44.1 | 43.5 |
| Motor vehicles and equipment | 44.9 | 44.9 | 45.2 | 45.6 | 45.3 | 44.8 | 44.9 | 45.2 | 45.6 | 45.3 | 45.7 | 45.3 | 45.2 | 44.7 | 43.5 |
| Instruments and related products | 41.4 | 41.7 | 41.6 | 41.8 | 41.8 | 41.8 | 41.9 | 42.0 | 41.6 | 42.1 | 42.0 | 41.9 | 41.9 | 42.0 | 41.7 |
| Miscellaneous manufacturing | 39.9 | 39.7 | 39.7 | 39.7 | 39.9 | 39.8 | 39.9 | 40.4 | 39.9 | 40.5 | 40.2 | 40.5 | 40.3 | 40.2 | 40.3 |
| Nondurable goods | 40.5 | 40.5 | 40.5 | 40.6 | 40.7 | 40.6 | 40.7 | 40.9 | 40.7 | 40.8 | 40.9 | 40.9 | 40.8 | 40.7 | 40.6 |
| Overtime hours | 4.0 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.2 | 4.3 | 4.2 | 4.3 | 4.4 | 4.4 | 4.3 | 4.2 | 4.3 |
| Food and kindred products | 41.1 | 41.0 | 40.8 | 40.8 | 41.0 | 41.1 | 41.1 | 41.3 | 41.2 | 41.3 | 41.3 | 41.1 | 41.4 | 41.0 | 41.1 |
| Textile mill products | 40.8 | 40.6 | 40.9 | 40.9 | 40.9 | 40.9 | 41.2 | 41.5 | 41.2 | 40.9 | 41.2 | 41.7 | 41.4 | 41.2 | 41.3 |
| Apparel and other textile products | 37.0 | 37.0 | 37.1 | 37.4 | 37.3 | 37.3 | 37.3 | 37.4 | 37.2 | 37.2 | 37.5 | 37.5 | 37.1 | 37.4 | 36.8 |
| Paper and allied products | 43.1 | 43.3 | 43.3 | 43.4 | 43.5 | 43.4 | 43.6 | 43.7 | 43.7 | 43.7 | 43.8 | 43.9 | 43.8 | 43.4 | 43.4 |
| Printing and publishing | 38.2 | 38.2 | 38.2 | 38.3 | 38.3 | 38.2 | 38.2 | 38.4 | 38.3 | 38.5 | 38.6 | 38.5 | 38.3 | 38.3 | 38.3 |
| Chemicals and allied products | 43.2 | 43.2 | 43.2 | 43.2 | 43.1 | 43.1 | 43.3 | 43.5 | 43.2 | 43.3 | 43.3 | 43.1 | 43.3 | 43.2 | 42.9 |
| Rubber and miscellaneous plastics products | 41.5 | 41.5 | 41.5 | 41.6 | 41.6 | 41.5 | 41.3 | 41.8 | 41.4 | 41.7 | 41.8 | 42.0 | 41.6 | 41.5 | 41.7 |
| Leather and leather products | 38.0 | 38.1 | 38.3 | 38.6 | 38.7 | 38.6 | 38.9 | 38.8 | 38.4 | 38.9 | 38.7 | 38.5 | 38.2 | 38.0 | 38.0 |
| SERVICE-PRODUCING | 32.7 | 32.7 | 32.5 | 32.7 | 32.9 | 32.6 | 32.7 | 33.0 | 32.7 | 33.0 | 33.0 | 32.7 | 32.7 | 32.9 | 32.6 |
| TRANSPORTATION AND PUBLIC UTILITIES | 39.4 | 39.6 | 39.4 | 39.7 | 39.8 | 39.6 | 39.8 | 39.9 | 39.5 | 39.7 | 39.8 | 39.3 | 39.5 | 39.6 | 38.9 |
| WHOLESALE TRADE | 38.3 | 38.3 | 38.1 | 38.3 | 38.4 | 38.2 | 38.3 | 38.5 | 38.2 | 38.6 | 38.6 | 38.4 | 38.4 | 38.6 | 38.4 |
| RETAIL TRADE | 28.8 | 28.8 | 28.7 | 28.8 | 28.9 | 28.8 | 28.9 | 29.0 | 28.8 | 29.1 | 29.1 | 28.9 | 28.9 | 28.9 | 28.8 |

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

## 14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[p] | July[p] |
| PRIVATE SECTOR (in current dollars) | $ 11.43 | $ 11.81 | $11.81 | $11.86 | $11.91 | $11.91 | $11.98 | $12.03 | $12.05 | $12.10 | $12.14 | $12.14 | $12.19 | $12.23 | $12.23 |
| Goods-producing | 13.04 | 13.47 | 13.49 | 13.54 | 13.57 | 13.57 | 13.62 | 13.69 | 13.73 | 13.76 | 13.79 | 13.80 | 13.85 | 13.86 | 13.88 |
| Mining | 15.30 | 15.61 | 15.61 | 15.65 | 15.70 | 15.67 | 15.77 | 15.88 | 15.98 | 15.96 | 15.94 | 15.96 | 16.05 | 16.13 | 16.03 |
| Construction | 15.09 | 15.46 | 15.47 | 15.52 | 15.59 | 15.58 | 15.58 | 15.69 | 15.73 | 15.79 | 15.80 | 15.86 | 15.91 | 15.95 | 15.97 |
| Manufacturing | 12.37 | 12.78 | 12.80 | 12.85 | 12.87 | 12.87 | 12.93 | 12.99 | 13.02 | 13.03 | 13.07 | 13.07 | 13.11 | 13.11 | 13.14 |
| Excluding overtime | 11.74 | 12.12 | 12.14 | 12.19 | 12.20 | 12.21 | 12.26 | 12.29 | 12.34 | 12.35 | 12.37 | 12.38 | 12.38 | 12.42 | 12.44 |
| Service-producing | 10.88 | 11.25 | 11.25 | 11.29 | 11.35 | 11.35 | 11.43 | 11.47 | 11.49 | 11.54 | 11.59 | 11.58 | 11.63 | 11.69 | 11.68 |
| Transportation and public utilities | 14.13 | 14.44 | 14.45 | 14.50 | 14.51 | 14.43 | 14.53 | 14.56 | 14.74 | 14.64 | 14.73 | 14.76 | 14.80 | 14.80 | 14.85 |
| Wholesale trade | 12.43 | 12.87 | 12.84 | 12.91 | 13.03 | 12.93 | 13.08 | 13.17 | 13.12 | 13.23 | 13.30 | 13.27 | 13.33 | 13.42 | 13.37 |
| Retail trade | 7.69 | 7.99 | 7.98 | 8.01 | 8.04 | 8.10 | 8.13 | 8.16 | 8.19 | 8.21 | 8.25 | 8.26 | 8.28 | 8.30 | 8.31 |
| Finance, insurance, and real estate | 12.32 | 12.79 | 12.80 | 12.84 | 12.91 | 12.86 | 12.98 | 13.00 | 12.95 | 13.08 | 13.12 | 13.00 | 13.18 | 13.24 | 13.24 |
| Services | 11.39 | 11.79 | 11.78 | 11.83 | 11.89 | 11.91 | 11.99 | 12.04 | 12.05 | 12.12 | 12.16 | 12.16 | 12.20 | 12.26 | 12.26 |
| PRIVATE SECTOR (in constant (1982) dollars) | 7.39 | 7.43 | 7.42 | 7.44 | 7.45 | 7.42 | 7.44 | 7.45 | 7.46 | 7.47 | 7.49 | 7.49 | 7.52 | 7.54 | – |

– Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

## 15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[P] | July[P] |
| PRIVATE SECTOR | $ 11.43 | $ 11.81 | $11.73 | $11.76 | $11.95 | $11.95 | $12.00 | $12.06 | $12.11 | $12.14 | $12.17 | $12.17 | $12.17 | $12.16 | $12.14 |
| MINING | 15.30 | 15.61 | 15.54 | 15.51 | 15.73 | 15.54 | 15.67 | 15.95 | 16.18 | 16.06 | 15.98 | 16.05 | 15.98 | 16.12 | 15.96 |
| CONSTRUCTION | 15.09 | 15.46 | 15.51 | 15.57 | 15.75 | 15.75 | 15.62 | 15.66 | 15.73 | 15.69 | 15.67 | 15.75 | 15.83 | 15.88 | 16.01 |
| MANUFACTURING | 12.37 | 12.78 | 12.79 | 12.79 | 12.90 | 12.83 | 12.93 | 13.07 | 13.04 | 13.02 | 13.08 | 13.09 | 13.09 | 13.09 | 13.14 |
| Durable goods | 12.94 | 13.34 | 13.35 | 13.39 | 13.52 | 13.42 | 13.49 | 13.64 | 13.62 | 13.58 | 13.64 | 13.64 | 13.64 | 13.65 | 13.65 |
| Lumber and wood products | 10.12 | 10.44 | 10.47 | 10.54 | 10.57 | 10.56 | 10.57 | 10.61 | 10.58 | 10.60 | 10.60 | 10.64 | 10.71 | 10.75 | 10.81 |
| Furniture and fixtures | 9.82 | 10.15 | 10.13 | 10.19 | 10.27 | 10.28 | 10.28 | 10.43 | 10.38 | 10.34 | 10.43 | 10.42 | 10.47 | 10.51 | 10.50 |
| Stone, clay, and glass products | 12.41 | 12.82 | 12.94 | 12.92 | 12.99 | 12.91 | 12.96 | 12.93 | 12.99 | 13.05 | 13.03 | 13.06 | 13.12 | 13.14 | 13.17 |
| Primary metal industries | 14.62 | 14.97 | 15.08 | 15.02 | 15.18 | 15.09 | 15.18 | 15.15 | 15.12 | 15.09 | 15.16 | 15.15 | 15.09 | 15.17 | 15.41 |
| Blast furnaces and basic steel products | 17.33 | 17.79 | 17.96 | 17.83 | 18.10 | 17.94 | 18.05 | 17.92 | 17.71 | 17.73 | 17.86 | 17.88 | 17.84 | 18.01 | 18.23 |
| Fabricated metal products | 12.13 | 12.52 | 12.51 | 12.54 | 12.67 | 12.55 | 12.62 | 12.79 | 12.75 | 12.75 | 12.78 | 12.80 | 12.78 | 12.79 | 12.74 |
| Industrial machinery and equipment | 13.24 | 13.59 | 13.55 | 13.63 | 13.77 | 13.70 | 13.80 | 13.97 | 13.91 | 13.88 | 13.93 | 13.94 | 13.92 | 13.95 | 14.00 |
| Electronic and other electrical equipment | 11.69 | 12.18 | 12.26 | 12.28 | 12.35 | 12.33 | 12.36 | 12.54 | 12.46 | 12.42 | 12.49 | 12.55 | 12.56 | 12.59 | 12.69 |
| Transportation equipment | 16.74 | 17.20 | 17.29 | 17.28 | 17.45 | 17.25 | 17.35 | 17.57 | 17.46 | 17.40 | 17.51 | 17.48 | 17.47 | 17.44 | 17.31 |
| Motor vehicles and equipment | 17.34 | 17.75 | 17.89 | 17.80 | 18.04 | 17.73 | 17.85 | 18.12 | 18.02 | 17.88 | 18.01 | 18.01 | 17.97 | 17.90 | 17.65 |
| Instruments and related products | 12.71 | 13.14 | 13.18 | 13.18 | 13.31 | 13.27 | 13.34 | 13.39 | 13.38 | 13.39 | 13.47 | 13.47 | 13.52 | 13.53 | 13.55 |
| Miscellaneous manufacturing | 10.05 | 10.38 | 10.37 | 10.48 | 10.47 | 10.52 | 10.59 | 10.59 | 10.59 | 10.56 | 10.56 | 10.53 | 10.52 | 10.49 | 10.52 |
| Nondurable goods | 11.58 | 11.97 | 12.00 | 11.95 | 12.01 | 12.00 | 12.12 | 12.24 | 12.20 | 12.19 | 12.25 | 12.27 | 12.27 | 12.26 | 12.40 |
| Food and kindred products | 10.93 | 11.20 | 11.25 | 11.16 | 11.19 | 11.16 | 11.38 | 11.46 | 11.41 | 11.32 | 11.40 | 11.45 | 11.48 | 11.44 | 11.53 |
| Tobacco products | 19.41 | 19.34 | 20.98 | 20.27 | 18.37 | 17.73 | 18.60 | 18.67 | 18.56 | 18.52 | 19.40 | 20.32 | 20.76 | 20.81 | 21.37 |
| Textile mill products | 9.41 | 9.69 | 9.68 | 9.72 | 9.78 | 9.73 | 9.77 | 9.92 | 9.93 | 9.89 | 9.92 | 9.94 | 9.94 | 9.97 | 10.00 |
| Apparel and other textile products | 7.64 | 7.96 | 7.95 | 7.94 | 8.00 | 8.03 | 8.01 | 8.15 | 8.12 | 8.19 | 8.24 | 8.21 | 8.23 | 8.25 | 8.21 |
| Paper and allied products | 14.23 | 14.67 | 14.79 | 14.69 | 14.74 | 14.74 | 14.86 | 14.95 | 14.84 | 14.78 | 14.93 | 15.00 | 14.98 | 15.00 | 15.21 |
| Printing and publishing | 12.33 | 12.65 | 12.63 | 12.70 | 12.82 | 12.81 | 12.83 | 12.90 | 12.86 | 12.90 | 13.01 | 12.99 | 12.93 | 12.90 | 13.07 |
| Chemicals and allied products | 15.62 | 16.17 | 16.16 | 16.22 | 16.25 | 16.28 | 16.38 | 16.45 | 16.37 | 16.49 | 16.42 | 16.42 | 16.47 | 16.52 | 16.62 |
| Petroleum and coal products | 19.36 | 19.32 | 19.02 | 18.98 | 19.35 | 19.35 | 19.61 | 20.26 | 20.13 | 20.42 | 20.51 | 19.97 | 19.98 | 19.93 | 19.99 |
| Rubber and miscellaneous plastics products | 10.91 | 11.24 | 11.25 | 11.23 | 11.31 | 11.28 | 11.33 | 11.51 | 11.49 | 11.45 | 11.50 | 11.53 | 11.50 | 11.52 | 11.62 |
| Leather and leather products | 8.17 | 8.56 | 8.43 | 8.62 | 8.69 | 8.71 | 8.73 | 8.83 | 8.83 | 8.91 | 8.86 | 8.87 | 8.89 | 8.93 | 8.76 |
| TRANSPORTATION AND PUBLIC UTILITIES | 14.13 | 14.44 | 14.44 | 14.48 | 14.57 | 14.49 | 14.57 | 14.60 | 14.71 | 14.66 | 14.70 | 14.77 | 14.72 | 14.73 | 14.85 |
| WHOLESALE TRADE | 12.43 | 12.87 | 12.82 | 12.85 | 13.03 | 12.94 | 13.06 | 13.20 | 13.18 | 13.26 | 13.28 | 13.33 | 13.32 | 13.36 | 13.36 |
| RETAIL TRADE | 7.69 | 7.99 | 7.93 | 7.95 | 8.06 | 8.12 | 8.13 | 8.16 | 8.24 | 8.24 | 8.27 | 8.28 | 8.27 | 8.27 | 8.26 |
| FINANCE, INSURANCE, AND REAL ESTATE | 12.32 | 12.79 | 12.69 | 12.71 | 12.89 | 12.87 | 12.97 | 13.02 | 12.99 | 13.15 | 13.20 | 13.09 | 13.18 | 13.18 | 13.12 |
| SERVICES | 11.39 | 11.79 | 11.60 | 11.63 | 11.89 | 11.93 | 12.04 | 12.16 | 12.19 | 12.24 | 12.24 | 12.20 | 12.17 | 12.15 | 12.07 |

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

## 16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

| Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June[p] | July[p] |
| **PRIVATE SECTOR** | | | | | | | | | | | | | | | |
| Current dollars | $394.34 | $406.26 | $405.86 | $409.25 | $417.06 | $412.28 | $414.00 | $420.89 | $410.53 | $418.83 | $421.08 | $418.65 | $419.87 | $424.38 | $421.26 |
| Seasonally adjusted | – | – | 405.08 | 409.17 | 413.28 | 409.70 | 413.31 | 417.44 | 414.52 | 421.08 | 422.47 | 418.83 | 420.56 | 424.38 | 420.71 |
| Constant (1982) dollars | 255.07 | 255.51 | 254.94 | 256.74 | 260.50 | 256.87 | 257.30 | 261.58 | 254.51 | 258.86 | 259.93 | 258.11 | 258.86 | 261.53 | 260.20 |
| **MINING** | 683.91 | 707.13 | 696.19 | 702.60 | 722.01 | 713.29 | 712.99 | 733.70 | 715.16 | 732.34 | 730.29 | 723.86 | 731.88 | 738.30 | 711.82 |
| **CONSTRUCTION** | 587.00 | 602.94 | 617.30 | 621.24 | 625.28 | 628.43 | 606.06 | 604.48 | 572.57 | 588.38 | 601.73 | 609.53 | 628.45 | 628.85 | 640.40 |
| **MANUFACTURING** | | | | | | | | | | | | | | | |
| Current dollars | 514.59 | 531.65 | 525.67 | 534.62 | 545.67 | 537.58 | 544.35 | 559.40 | 541.16 | 541.63 | 549.36 | 547.16 | 548.47 | 549.78 | 541.37 |
| Constant (1982) dollars | 332.85 | 334.37 | 330.19 | 335.40 | 340.83 | 334.94 | 338.32 | 347.67 | 335.50 | 334.75 | 339.11 | 337.34 | 338.14 | 338.79 | 333.45 |
| **Durable goods** | 548.66 | 565.62 | 556.70 | 569.08 | 582.71 | 573.03 | 578.72 | 594.70 | 576.13 | 577.15 | 585.16 | 582.43 | 583.79 | 584.22 | 570.57 |
| Lumber and wood products | 410.87 | 425.95 | 426.13 | 436.36 | 439.71 | 437.18 | 433.37 | 437.13 | 418.97 | 426.12 | 431.42 | 438.37 | 442.32 | 446.13 | 438.89 |
| Furniture and fixtures | 388.87 | 399.91 | 398.11 | 408.62 | 414.91 | 414.28 | 416.34 | 433.89 | 407.93 | 403.26 | 416.16 | 411.59 | 416.71 | 419.35 | 413.70 |
| Stone, clay, and glass products | 533.63 | 555.11 | 562.89 | 568.48 | 575.46 | 568.04 | 563.76 | 557.28 | 531.29 | 548.10 | 553.78 | 560.27 | 573.34 | 572.90 | 570.26 |
| Primary metal industries | 643.28 | 661.67 | 657.49 | 662.38 | 680.06 | 670.00 | 675.51 | 686.30 | 672.84 | 673.01 | 679.17 | 677.21 | 674.52 | 679.62 | 670.34 |
| Blast furnaces and basic steel products | 769.45 | 791.66 | 797.42 | 784.52 | 807.26 | 796.54 | 814.06 | 808.19 | 791.64 | 787.21 | 798.34 | 802.81 | 797.45 | 803.25 | 796.65 |
| Fabricated metal products | 514.31 | 530.85 | 520.42 | 534.20 | 546.08 | 535.89 | 542.66 | 557.64 | 536.78 | 539.33 | 543.15 | 542.72 | 543.15 | 546.13 | 532.53 |
| Industrial machinery and equipment | 574.62 | 585.73 | 574.52 | 582.00 | 596.24 | 587.73 | 597.54 | 620.27 | 602.30 | 603.78 | 610.13 | 607.78 | 605.52 | 606.83 | 600.60 |
| Electronic and other electrical equipment | 486.30 | 505.47 | 497.76 | 510.85 | 518.70 | 514.16 | 520.36 | 537.97 | 513.35 | 519.16 | 527.08 | 524.59 | 523.75 | 527.52 | 517.75 |
| Transportation equipment | 733.21 | 756.80 | 738.28 | 765.50 | 787.00 | 762.45 | 772.08 | 801.19 | 778.72 | 770.82 | 787.95 | 781.36 | 780.91 | 776.08 | 730.48 |
| Motor vehicles and equipment | 778.57 | 769.98 | 776.43 | 809.90 | 833.45 | 979.85 | 806.82 | 842.58 | 819.91 | 804.60 | 824.86 | 817.65 | 817.64 | 809.08 | 736.01 |
| Instruments and related products | 526.19 | 547.94 | 540.38 | 548.29 | 559.02 | 553.36 | 562.95 | 575.77 | 557.95 | 562.38 | 568.43 | 561.70 | 563.78 | 569.61 | 558.26 |
| Miscellaneous manufacturing | 401.00 | 412.09 | 402.36 | 412.73 | 423.39 | 420.89 | 427.11 | 435.25 | 419.36 | 423.46 | 425.57 | 423.31 | 420.80 | 421.70 | 414.49 |
| **Nondurable goods** | 468.99 | 484.79 | 482.40 | 488.76 | 496.01 | 490.80 | 499.34 | 509.18 | 494.10 | 492.48 | 498.58 | 496.94 | 498.16 | 498.98 | 499.72 |
| Food and kindred products | 449.22 | 459.20 | 460.13 | 463.14 | 472.22 | 465.37 | 475.68 | 481.32 | 464.39 | 460.72 | 463.98 | 462.58 | 471.83 | 467.90 | 473.88 |
| Tobacco products | 768.64 | 773.60 | 809.83 | 810.80 | 771.54 | 730.48 | 766.32 | 782.27 | 727.55 | 724.13 | 758.54 | 780.29 | 803.41 | 817.83 | 799.24 |
| Textile mill products | 383.93 | 393.41 | 389.14 | 401.44 | 404.89 | 399.90 | 407.41 | 416.64 | 407.13 | 398.57 | 408.70 | 410.52 | 409.53 | 415.75 | 406.00 |
| Apparel and other textile products | 282.68 | 294.52 | 292.56 | 299.34 | 300.80 | 301.93 | 301.98 | 308.89 | 299.63 | 302.21 | 309.00 | 305.41 | 306.16 | 311.85 | 299.67 |
| Paper and allied products | 613.31 | 635.21 | 638.93 | 637.55 | 648.56 | 642.66 | 655.33 | 665.28 | 649.99 | 639.97 | 649.46 | 651.00 | 650.13 | 651.00 | 657.07 |
| Printing and publishing | 471.01 | 483.23 | 479.94 | 490.22 | 497.42 | 491.90 | 496.52 | 503.10 | 486.11 | 491.49 | 503.49 | 497.52 | 492.63 | 490.20 | 496.66 |
| Chemicals and allied products | 674.78 | 698.54 | 693.26 | 695.84 | 703.63 | 703.30 | 715.81 | 730.38 | 705.55 | 710.72 | 709.34 | 706.06 | 709.86 | 713.66 | 708.01 |
| Petroleum and coal products | 846.03 | 842.35 | 842.59 | 833.22 | 855.27 | 843.66 | 862.84 | 889.41 | 905.85 | 886.23 | 881.93 | 846.73 | 847.15 | 855.00 | 845.58 |
| Rubber and miscellaneous plastics products | 452.77 | 466.46 | 459.00 | 467.17 | 476.15 | 469.25 | 471.33 | 490.33 | 475.69 | 475.18 | 480.70 | 480.80 | 479.55 | 480.38 | 476.42 |
| Leather and leather products | 310.46 | 326.14 | 317.81 | 335.32 | 340.65 | 339.69 | 343.09 | 347.02 | 332.89 | 336.80 | 341.11 | 337.95 | 339.60 | 345.59 | 327.62 |
| **TRANSPORTATION AND PUBLIC UTILITIES** | 556.72 | 571.82 | 573.27 | 579.20 | 587.17 | 575.25 | 579.89 | 582.54 | 570.75 | 579.07 | 580.65 | 578.98 | 578.50 | 586.25 | 583.61 |
| **WHOLESALE TRADE** | 476.07 | 492.92 | 488.44 | 493.44 | 502.96 | 495.60 | 500.20 | 510.84 | 499.52 | 510.51 | 511.28 | 510.54 | 512.82 | 528.37 | 513.02 |
| **RETAIL TRADE** | 221.47 | 230.11 | 233.14 | 234.53 | 234.55 | 233.04 | 232.52 | 239.09 | 230.72 | 236.49 | 237.35 | 236.81 | 238.18 | 243.14 | 244.50 |
| **FINANCE, INSURANCE, AND REAL ESTATE** | 442.29 | 459.16 | 451.76 | 453.75 | 470.49 | 459.46 | 464.33 | 477.83 | 463.74 | 482.61 | 481.80 | 469.93 | 473.16 | 482.39 | 471.01 |
| **SERVICES** | 369.04 | 382.00 | 377.00 | 380.30 | 387.61 | 386.53 | 390.10 | 397.63 | 390.08 | 400.25 | 399.02 | 395.28 | 394.31 | 398.52 | 394.69 |

– Data not available.

[p] = preliminary.

## 17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

| Timespan and year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Private nonfarm payrolls, 356 industries | | | | | | | | | | | |
| Over 1-month span: | | | | | | | | | | | | |
| 1994 | 57.6 | 61.9 | 67.1 | 64.5 | 57.7 | 63.9 | 62.5 | 62.6 | 61.4 | 60.3 | 63.8 | 62.4 |
| 1995 | 62.4 | 60.1 | 54.5 | 55.6 | 48.0 | 53.9 | 54.1 | 59.8 | 57.0 | 54.9 | 57.2 | 57.9 |
| 1996 | 51.7 | 64.3 | 60.1 | 54.9 | 62.9 | 60.5 | 56.5 | 59.3 | 54.4 | 62.6 | 58.1 | 61.0 |
| 1997 | 59.3 | 59.1 | 59.0 | 61.1 | 57.4 | 52.0 | 58.7 | – | – | – | – | – |
| Over 3-month span: | | | | | | | | | | | | |
| 1994 | 65.3 | 69.5 | 70.4 | 68.7 | 67.1 | 67.0 | 69.1 | 69.7 | 65.7 | 65.6 | 67.0 | 66.2 |
| 1995 | 65.4 | 62.5 | 58.7 | 53.2 | 54.6 | 52.4 | 57.9 | 59.6 | 59.7 | 59.0 | 57.0 | 56.3 |
| 1996 | 62.6 | 63.6 | 62.6 | 61.2 | 62.1 | 63.1 | 62.6 | 58.8 | 62.8 | 60.4 | 64.7 | 65.0 |
| 1997 | 64.6 | 62.2 | 64.2 | 65.6 | 60.0 | 59.8 | – | – | – | – | – | – |
| Over 6-month span: | | | | | | | | | | | | |
| 1994 | 71.1 | 69.8 | 69.8 | 70.9 | 70.1 | 69.8 | 69.7 | 69.4 | 69.4 | 67.4 | 67.7 | 66.2 |
| 1995 | 66.9 | 61.4 | 58.1 | 56.6 | 58.1 | 58.1 | 56.7 | 59.8 | 60.3 | 59.1 | 61.5 | 63.3 |
| 1996 | 62.2 | 63.5 | 63.5 | 63.5 | 62.6 | 61.2 | 65.3 | 63.6 | 62.6 | 64.5 | 64.2 | 67.4 |
| 1997 | 67.6 | 66.6 | 65.2 | 64.2 | – | – | – | – | – | – | – | – |
| Over 12-month span: | | | | | | | | | | | | |
| 1994 | 70.2 | 71.6 | 71.8 | 71.8 | 72.1 | 71.8 | 71.5 | 72.1 | 70.1 | 69.5 | 66.6 | 65.0 |
| 1995 | 63.6 | 62.4 | 62.6 | 63.3 | 61.7 | 61.9 | 58.7 | 62.2 | 62.2 | 61.1 | 62.2 | 63.3 |
| 1996 | 63.5 | 64.7 | 62.4 | 62.9 | 64.7 | 64.2 | 65.0 | 63.1 | 63.8 | 66.7 | 65.7 | 65.3 |
| 1997 | 66.9 | – | – | – | – | – | – | – | – | – | – | – |
| | Manufacturing payrolls, 139 industries | | | | | | | | | | | |
| Over 1-month span: | | | | | | | | | | | | |
| 1994 | 55.8 | 59.0 | 60.4 | 58.6 | 52.9 | 58.6 | 59.4 | 56.1 | 52.9 | 55.0 | 58.6 | 58.3 |
| 1995 | 54.3 | 56.1 | 44.2 | 51.4 | 42.1 | 42.8 | 43.5 | 52.2 | 47.1 | 50.0 | 47.5 | 50.7 |
| 1996 | 45.7 | 54.3 | 47.8 | 39.2 | 52.2 | 52.2 | 44.2 | 52.9 | 44.2 | 50.7 | 49.6 | 52.2 |
| 1997 | 54.0 | 50.4 | 52.9 | 52.9 | 51.4 | 50.4 | 50.0 | – | – | – | – | – |
| Over 3-month span: | | | | | | | | | | | | |
| 1994 | 61.9 | 64.7 | 65.5 | 59.7 | 57.6 | 60.1 | 62.2 | 57.9 | 55.0 | 55.4 | 60.1 | 59.4 |
| 1995 | 59.7 | 50.4 | 47.5 | 40.3 | 42.4 | 36.3 | 38.5 | 43.9 | 49.3 | 46.4 | 45.3 | 43.9 |
| 1996 | 47.5 | 47.8 | 42.1 | 38.5 | 43.2 | 45.0 | 48.9 | 43.2 | 50.4 | 46.4 | 52.5 | 52.5 |
| 1997 | 53.2 | 51.4 | 50.7 | 52.5 | 50.0 | 48.6 | – | – | – | – | – | – |
| Over 6-month span: | | | | | | | | | | | | |
| 1994 | 62.2 | 62.2 | 62.6 | 63.3 | 59.4 | 56.5 | 56.5 | 58.6 | 58.6 | 55.0 | 58.3 | 55.0 |
| 1995 | 55.8 | 48.6 | 43.9 | 38.8 | 39.2 | 39.6 | 38.8 | 39.6 | 43.9 | 45.0 | 44.2 | 44.6 |
| 1996 | 41.4 | 41.7 | 41.0 | 38.1 | 39.6 | 40.6 | 47.5 | 46.8 | 45.3 | 50.4 | 48.2 | 53.2 |
| 1997 | 53.2 | 53.2 | 51.8 | 47.8 | – | – | – | – | – | – | – | – |
| Over 12-month span: | | | | | | | | | | | | |
| 1994 | 57.9 | 58.6 | 60.8 | 60.8 | 60.8 | 63.3 | 59.4 | 60.1 | 57.2 | 56.5 | 50.4 | 49.6 |
| 1995 | 46.0 | 44.2 | 46.0 | 47.8 | 41.0 | 41.7 | 38.5 | 38.8 | 36.3 | 37.4 | 38.1 | 39.9 |
| 1996 | 39.6 | 42.8 | 39.2 | 39.6 | 42.4 | 40.3 | 43.5 | 40.3 | 43.5 | 46.8 | 46.4 | 47.5 |
| 1997 | 51.8 | – | – | – | – | – | – | – | – | – | – | – |

– Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

## 18. Annual data: Employment status of the population

[Numbers in thousands]

| Employment status | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|
| Civilian noninstitutional population | 184,613 | 186,393 | 189,164 | 190,925 | 192,805 | 194,838 | 196,814 | 198,584 | 200,591 |
| Civilian labor force | 121,669 | 123,869 | 125,840 | 126,346 | 128,105 | 129,200 | 131,056 | 132,304 | 133,943 |
| Labor force participation rate | 65.9 | 66.5 | 66.5 | 66.2 | 66.4 | 66.3 | 66.6 | 66.6 | 66.8 |
| Employed | 114,968 | 117,342 | 118,793 | 117,718 | 118,492 | 120,259 | 123,060 | 124,900 | 126,708 |
| Employment-population ratio | 62.3 | 63.0 | 62.8 | 61.7 | 61.5 | 61.7 | 62.5 | 62.9 | 63.2 |
| Agriculture | 3,169 | 3,199 | 3,223 | 3,269 | 3,247 | 3,115 | 3,409 | 3,440 | 3,443 |
| Nonagricultural industries | 111,800 | 114,142 | 115,570 | 114,499 | 115,245 | 117,144 | 119,651 | 121,460 | 123,264 |
| Unemployed | 6,701 | 6,528 | 7,047 | 8,628 | 9,613 | 8,940 | 7,996 | 7,404 | 7,236 |
| Unemployment rate | 5.5 | 5.3 | 5.6 | 6.8 | 7.5 | 6.9 | 6.1 | 5.6 | 5.4 |
| Not in the labor force | 62,944 | 62,523 | 63,324 | 64,578 | 64,700 | 65,638 | 65,758 | 66,280 | 66,647 |

## 19. Annual data: Employment levels by industry

[In thousands]

| Industry | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|
| Total employment | 105,210 | 107,895 | 109,419 | 108,256 | 108,604 | 110,730 | 114,172 | 117,191 | 119,523 |
| Private sector | 87,824 | 90,117 | 91,115 | 89,854 | 89,959 | 91,889 | 95,044 | 97,885 | 100,076 |
| Goods-producing | 25,125 | 25,254 | 24,905 | 23,745 | 23,231 | 23,352 | 23,908 | 24,265 | 24,431 |
| Mining | 713 | 692 | 709 | 689 | 635 | 610 | 601 | 581 | 574 |
| Construction | 5,098 | 5,171 | 5,120 | 4,650 | 4,492 | 4,668 | 4,986 | 5,160 | 5,400 |
| Manufacturing | 19,314 | 19,391 | 19,076 | 18,406 | 18,104 | 18,075 | 18,321 | 18,524 | 18,457 |
| Service-producing | 80,086 | 82,642 | 84,514 | 84,511 | 85,373 | 87,378 | 90,264 | 92,925 | 95,092 |
| Transportation and public utilities | 5,514 | 5,625 | 5,793 | 5,762 | 5,721 | 5,829 | 5,993 | 6,132 | 6,261 |
| Wholesale trade | 6,030 | 6,187 | 6,173 | 6,081 | 5,997 | 5,981 | 6,162 | 6,378 | 6,483 |
| Retail trade | 19,023 | 19,475 | 19,601 | 19,284 | 19,356 | 19,773 | 20,507 | 21,187 | 21,625 |
| Finance, insurance, and real estate | 6,630 | 6,668 | 6,709 | 6,646 | 6,602 | 6,757 | 6,896 | 6,806 | 6,899 |
| Services | 25,504 | 26,907 | 27,934 | 28,336 | 29,052 | 30,197 | 31,579 | 33,117 | 34,377 |
| Government | 17,386 | 17,779 | 18,304 | 18,402 | 18,645 | 18,841 | 19,128 | 19,305 | 19,447 |
| Federal | 2,971 | 2,988 | 3,085 | 2,966 | 2,969 | 2,915 | 2,870 | 2,822 | 2,757 |
| State | 4,076 | 4,182 | 4,305 | 4,355 | 4,408 | 4,488 | 4,576 | 4,635 | 4,624 |
| Local | 10,339 | 10,609 | 10,914 | 11,081 | 11,267 | 11,438 | 11,682 | 11,849 | 12,066 |

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

## 20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

| Industry | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|
| **Private sector:** | | | | | | | | | |
| Average weekly hours | 34.7 | 34.6 | 34.5 | 34.3 | 34.4 | 34.5 | 34.7 | 34.5 | 34.4 |
| Average hourly earnings (in dollars) | 9.28 | 9.66 | 10.01 | 10.32 | 10.57 | 10.83 | 11.12 | 11.43 | 11.81 |
| Average weekly earnings (in dollars) | 322.02 | 334.24 | 345.35 | 353.98 | 363.61 | 373.64 | 385.86 | 394.34 | 406.26 |
| **Mining:** | | | | | | | | | |
| Average weekly hours | 42.3 | 43.0 | 44.1 | 44.4 | 43.9 | 44.3 | 44.8 | 44.7 | 45.3 |
| Average hourly earnings (in dollars) | 12.80 | 13.26 | 13.68 | 14.19 | 14.54 | 14.60 | 14.88 | 15.30 | 15.61 |
| Average weekly earnings (in dollars) | 541.44 | 570.18 | 603.29 | 630.04 | 638.31 | 646.78 | 666.62 | 683.91 | 707.13 |
| **Construction:** | | | | | | | | | |
| Average weekly hours | 37.9 | 37.9 | 38.2 | 38.1 | 38.0 | 38.5 | 38.9 | 38.9 | 39.0 |
| Average hourly earnings (in dollars) | 13.08 | 13.54 | 13.77 | 14.00 | 14.15 | 14.38 | 14.73 | 15.09 | 15.46 |
| Average weekly earnings (in dollars) | 495.73 | 513.17 | 526.01 | 533.40 | 537.70 | 553.63 | 573.00 | 587.00 | 602.94 |
| **Manufacturing:** | | | | | | | | | |
| Average weekly hours | 41.1 | 41.0 | 40.8 | 40.7 | 41.0 | 41.4 | 42.0 | 41.6 | 41.6 |
| Average hourly earnings (in dollars) | 10.19 | 10.48 | 10.83 | 11.18 | 11.46 | 11.74 | 12.07 | 12.37 | 12.78 |
| Average weekly earnings (in dollars) | 418.81 | 429.68 | 441.86 | 455.03 | 469.86 | 486.04 | 506.94 | 514.59 | 531.65 |
| **Transportation and public utilities:** | | | | | | | | | |
| Average weekly hours | 38.8 | 38.9 | 38.9 | 38.7 | 38.9 | 39.6 | 39.9 | 39.4 | 39.6 |
| Average hourly earnings (in dollars) | 12.26 | 12.60 | 12.97 | 13.22 | 13.45 | 13.62 | 13.86 | 14.13 | 14.44 |
| Average weekly earnings (in dollars) | 475.69 | 490.14 | 504.53 | 511.61 | 523.21 | 539.35 | 553.01 | 556.72 | 571.82 |
| **Wholesale trade:** | | | | | | | | | |
| Average weekly hours | 38.1 | 38.0 | 38.1 | 38.1 | 38.2 | 38.2 | 38.4 | 38.3 | 38.3 |
| Average hourly earnings (in dollars) | 9.98 | 10.39 | 10.79 | 11.15 | 11.39 | 11.74 | 12.06 | 12.43 | 12.87 |
| Average weekly earnings (in dollars) | 380.24 | 394.82 | 411.10 | 424.82 | 435.10 | 448.47 | 463.10 | 476.07 | 492.92 |
| **Retail trade:** | | | | | | | | | |
| Average weekly hours | 29.1 | 28.9 | 28.8 | 28.6 | 28.8 | 28.8 | 28.9 | 28.8 | 28.8 |
| Average hourly earnings (in dollars) | 6.31 | 6.53 | 6.75 | 6.94 | 7.12 | 7.29 | 7.49 | 7.69 | 7.99 |
| Average weekly earnings (in dollars) | 183.62 | 188.72 | 194.40 | 198.48 | 205.06 | 209.95 | 216.46 | 221.47 | 230.11 |
| **Finance, insurance, and real estate:** | | | | | | | | | |
| Average weekly hours | 35.9 | 35.8 | 35.8 | 35.7 | 35.8 | 35.8 | 35.8 | 35.9 | 35.9 |
| Average hourly earnings (in dollars) | 9.06 | 9.53 | 9.97 | 10.39 | 10.82 | 11.35 | 11.83 | 12.32 | 12.79 |
| Average weekly earnings (in dollars) | 325.25 | 341.17 | 356.93 | 370.92 | 387.36 | 406.33 | 423.51 | 442.29 | 459.16 |
| **Services:** | | | | | | | | | |
| Average weekly hours | 32.6 | 32.6 | 32.5 | 32.4 | 32.5 | 32.5 | 32.5 | 32.4 | 32.4 |
| Average hourly earnings (in dollars) | 8.88 | 9.38 | 9.83 | 10.23 | 10.54 | 10.78 | 11.04 | 11.39 | 11.79 |
| Average weekly earnings (in dollars) | 289.49 | 305.79 | 319.48 | 331.45 | 342.55 | 350.35 | 358.80 | 369.04 | 382.00 |

## 21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended June 1997 | 12 months ended June 1997 |
| **Civilian workers**[2] | 125.6 | 126.6 | 127.2 | 128.3 | 129.2 | 130.2 | 130.9 | 132.0 | 132.8 | 0.6 | 2.8 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 126.3 | 127.4 | 128.0 | 129.1 | 130.0 | 131.3 | 131.9 | 133.1 | 133.9 | .6 | 3.0 |
| Professional specialty and technical | 127.5 | 128.9 | 129.4 | 130.6 | 131.4 | 132.6 | 133.1 | 133.7 | 134.6 | .7 | 2.4 |
| Executive, administrative, and managerial | 125.7 | 126.7 | 127.4 | 128.5 | 129.1 | 131.1 | 131.5 | 133.2 | 134.0 | .6 | 3.8 |
| Administrative support, including clerical | 127.3 | 128.1 | 129.0 | 130.1 | 130.8 | 132.0 | 132.6 | 133.6 | 134.6 | .7 | 2.9 |
| Blue-collar workers | 124.5 | 125.2 | 125.8 | 126.7 | 127.7 | 128.3 | 129.1 | 129.8 | 130.9 | .8 | 2.5 |
| Service occupations | 125.8 | 126.7 | 127.4 | 128.0 | 128.7 | 129.7 | 131.0 | 132.0 | 132.7 | .5 | 3.1 |
| Workers, by industry division: | | | | | | | | | | | |
| Goods-producing | 126.0 | 126.5 | 127.4 | 128.3 | 129.3 | 130.1 | 130.9 | 131.5 | 132.7 | .9 | 2.6 |
| Manufacturing | 126.9 | 127.3 | 128.3 | 129.3 | 130.4 | 131.3 | 132.1 | 132.6 | 133.8 | .9 | 2.6 |
| Service-producing | 125.5 | 126.6 | 127.1 | 128.2 | 129.1 | 130.2 | 130.9 | 132.1 | 132.9 | .6 | 2.9 |
| Services | 127.8 | 128.9 | 129.4 | 130.4 | 131.2 | 132.5 | 133.2 | 134.1 | 134.9 | .6 | 2.8 |
| Health services | 130.2 | 131.1 | 132.0 | 132.5 | 133.4 | 134.1 | 134.4 | 135.2 | 135.7 | .4 | 1.7 |
| Hospitals | 129.7 | 130.4 | 131.4 | 132.3 | 132.9 | 133.6 | 133.8 | 134.2 | 134.6 | .3 | 1.3 |
| Educational services | 127.4 | 129.8 | 130.2 | 130.5 | 130.8 | 133.2 | 133.9 | 134.0 | 134.2 | .1 | 2.6 |
| Public administration[3] | 126.1 | 127.4 | 128.3 | 129.2 | 129.6 | 130.7 | 131.8 | 133.0 | 133.0 | .0 | 2.6 |
| Nonmanufacturing | 125.2 | 126.3 | 126.8 | 127.9 | 128.8 | 129.8 | 130.5 | 131.7 | 132.5 | .6 | 2.9 |
| **Private industry workers** | 125.4 | 126.2 | 126.7 | 127.9 | 129.0 | 129.8 | 130.6 | 131.7 | 132.8 | .8 | 2.9 |
| Excluding sales occupations | 125.7 | 126.5 | 127.1 | 128.3 | 129.2 | 130.2 | 130.8 | 131.9 | 133.0 | .8 | 2.9 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 126.2 | 127.0 | 127.6 | 129.0 | 130.0 | 131.1 | 131.7 | 133.1 | 134.1 | .8 | 3.2 |
| Excluding sales occupations | 127.0 | 127.8 | 128.6 | 129.9 | 130.7 | 132.0 | 132.5 | 133.7 | 134.8 | .8 | 3.1 |
| Professional specialty and technical occupations | 128.4 | 129.3 | 129.9 | 131.6 | 132.6 | 133.3 | 133.7 | 134.6 | 135.9 | 1.0 | 2.5 |
| Executive, administrative, and managerial occupations | 125.4 | 126.2 | 126.9 | 128.0 | 128.8 | 130.9 | 131.3 | 133.0 | 133.9 | .7 | 4.0 |
| Sales occupations | 122.4 | 123.2 | 123.2 | 124.8 | 126.9 | 126.7 | 128.1 | 130.1 | 130.7 | .5 | 3.0 |
| Administrative support occupations, including clerical | 127.3 | 128.1 | 129.0 | 130.1 | 130.8 | 132.0 | 132.5 | 133.7 | 134.7 | .7 | 3.0 |
| Blue-collar workers | 124.4 | 125.1 | 125.6 | 126.6 | 127.6 | 128.1 | 129.0 | 129.6 | 130.8 | .9 | 2.5 |
| Precision production, craft, and repair occupations | 124.4 | 125.4 | 125.7 | 126.5 | 127.7 | 128.2 | 129.1 | 129.6 | 130.9 | 1.0 | 2.5 |
| Machine operators, assemblers, and inspectors | 124.8 | 125.1 | 126.2 | 127.1 | 128.1 | 128.7 | 129.5 | 130.0 | 131.2 | .9 | 2.4 |
| Transportation and material moving occupations | 122.4 | 122.9 | 123.0 | 123.9 | 124.7 | 124.9 | 125.2 | 126.1 | 126.8 | .6 | 1.7 |
| Handlers, equipment cleaners, helpers, and laborers | 125.3 | 125.9 | 126.8 | 128.5 | 129.3 | 130.0 | 131.3 | 132.8 | 133.4 | .5 | 3.2 |
| Service occupations | 124.0 | 124.7 | 125.2 | 125.8 | 126.5 | 127.4 | 128.9 | 129.8 | 130.9 | .8 | 3.5 |
| Production and nonsupervisory occupations[4] | 125.0 | 125.8 | 126.3 | 127.5 | 128.6 | 129.2 | 130.0 | 131.1 | 132.1 | .8 | 2.7 |
| Workers, by industry division: | | | | | | | | | | | |
| Goods-producing | 125.9 | 126.5 | 127.3 | 128.2 | 129.3 | 130.1 | 130.9 | 131.4 | 132.7 | 1.0 | 2.6 |
| Excluding sales occupations | 125.6 | 126.1 | 127.0 | 128.0 | 129.0 | 129.8 | 130.5 | 131.1 | 132.3 | .9 | 2.6 |
| White-collar occupations | 127.6 | 128.1 | 129.0 | 130.0 | 131.0 | 132.2 | 132.9 | 133.5 | 134.8 | 1.0 | 2.9 |
| Excluding sales occupations | 126.7 | 127.2 | 128.2 | 129.4 | 130.2 | 131.5 | 132.1 | 132.6 | 133.8 | .9 | 2.8 |
| Blue-collar occupations | 124.9 | 125.5 | 126.3 | 127.1 | 128.3 | 128.9 | 129.6 | 130.2 | 131.4 | .9 | 2.4 |
| Construction | 122.0 | 123.1 | 123.4 | 124.3 | 125.3 | 125.9 | 126.4 | 127.2 | 128.7 | 1.2 | 2.7 |
| Manufacturing | 126.9 | 127.3 | 128.3 | 129.3 | 130.4 | 131.3 | 132.1 | 132.6 | 133.8 | .9 | 2.6 |
| White-collar occupations | 128.0 | 128.7 | 129.5 | 130.5 | 131.6 | 132.8 | 133.6 | 133.9 | 135.2 | 1.0 | 2.7 |
| Excluding sales occupations | 126.6 | 127.4 | 128.3 | 129.5 | 130.5 | 131.8 | 132.5 | 132.8 | 133.8 | .8 | 2.5 |
| Blue-collar occupations | 126.0 | 126.3 | 127.5 | 128.4 | 129.5 | 130.2 | 131.1 | 131.7 | 132.8 | .8 | 2.5 |
| Durables | 127.7 | 128.2 | 129.0 | 129.7 | 131.2 | 131.9 | 132.6 | 133.0 | 134.1 | .8 | 2.2 |
| Nondurables | 125.4 | 125.7 | 127.0 | 128.3 | 128.9 | 130.0 | 131.0 | 131.7 | 133.0 | 1.0 | 3.2 |
| Service-producing | 124.9 | 125.8 | 126.2 | 127.6 | 128.6 | 129.5 | 130.2 | 131.6 | 132.5 | .7 | 3.0 |
| Excluding sales occupations | 125.8 | 126.6 | 127.2 | 128.4 | 129.2 | 130.3 | 130.9 | 132.2 | 133.3 | .8 | 3.2 |
| White-collar occupations | 125.6 | 126.5 | 127.1 | 128.5 | 129.6 | 130.6 | 131.1 | 132.7 | 133.7 | .8 | 3.2 |
| Excluding sales occupations | 127.1 | 128.0 | 128.7 | 130.0 | 130.9 | 132.2 | 132.6 | 134.0 | 135.1 | .8 | 3.2 |
| Blue-collar occupations | 123.1 | 123.9 | 124.0 | 125.2 | 126.0 | 126.4 | 127.3 | 128.2 | 129.2 | .8 | 2.5 |
| Service occupations | 123.6 | 124.2 | 124.8 | 125.3 | 126.1 | 127.1 | 128.6 | 129.5 | 130.6 | .8 | 3.6 |
| Transportation and public utilities | 124.7 | 126.0 | 126.6 | 127.9 | 128.4 | 129.3 | 130.4 | 131.3 | 131.7 | .3 | 2.6 |
| Transportation | 123.0 | 124.7 | 125.1 | 126.9 | 127.7 | 128.2 | 129.2 | 130.6 | 130.9 | .2 | 2.5 |
| Public utilities | 126.8 | 127.5 | 128.5 | 128.9 | 129.1 | 130.4 | 131.7 | 132.0 | 132.5 | .4 | 2.6 |
| Communications | 126.6 | 127.4 | 128.3 | 128.0 | 127.5 | 129.1 | 131.1 | 130.2 | 130.5 | .2 | 2.4 |
| Electric, gas, and sanitary services | 127.0 | 127.7 | 128.7 | 130.1 | 131.1 | 132.0 | 132.4 | 134.2 | 134.9 | .5 | 2.9 |
| Wholesale and retail trade | 122.8 | 123.8 | 124.2 | 125.5 | 126.4 | 127.5 | 128.6 | 130.1 | 131.2 | .8 | 3.8 |
| Excluding sales occupations | 123.1 | 124.1 | 125.0 | 125.9 | 126.4 | 128.0 | 129.0 | 130.4 | 131.9 | 1.2 | 4.4 |
| Wholesale trade | 124.8 | 126.1 | 127.0 | 127.5 | 129.3 | 129.9 | 130.9 | 132.9 | 133.8 | .7 | 3.5 |
| Excluding sales occupations | 125.1 | 126.2 | 127.1 | 127.4 | 128.7 | 130.0 | 130.9 | 132.6 | 133.7 | .8 | 3.9 |
| Retail trade | 121.8 | 122.6 | 122.7 | 124.5 | 124.8 | 126.2 | 127.4 | 128.5 | 129.7 | .9 | 3.9 |
| Food stores | 120.7 | 121.8 | 122.4 | 123.6 | 124.4 | 127.0 | 128.4 | 128.2 | 128.2 | .0 | 3.1 |
| General merchandise stores | 120.7 | 121.0 | 121.7 | 122.4 | 123.6 | 124.6 | 126.3 | 126.4 | 127.7 | 1.0 | 3.3 |

See footnotes at end of table.

## 21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended | 12 months ended |
| | | | | | | | | | | June 1997 | |
| Finance, insurance, and real estate | 121.8 | 122.7 | 123.1 | 124.5 | 126.3 | 126.7 | 126.0 | 128.6 | 129.4 | 0.6 | 2.5 |
| Excluding sales occupations | 124.6 | 125.4 | 125.7 | 127.5 | 128.5 | 129.7 | 129.2 | 131.5 | 132.4 | .7 | 3.0 |
| Banking, savings and loan, and other credit agencies | 124.1 | 124.8 | 124.4 | 126.9 | 128.2 | 130.3 | 128.0 | 130.6 | 131.6 | .8 | 2.7 |
| Insurance | 124.6 | 124.9 | 125.9 | 127.6 | 128.2 | 129.3 | 129.6 | 131.9 | 132.1 | .2 | 3.0 |
| Services | 128.2 | 128.9 | 129.4 | 130.7 | 131.7 | 132.7 | 133.4 | 134.6 | 135.7 | .8 | 3.0 |
| Business services | 125.3 | 125.7 | 126.3 | 128.9 | 129.2 | 130.2 | 131.8 | 133.3 | 134.2 | .7 | 3.9 |
| Health services | 130.3 | 131.3 | 132.2 | 132.6 | 133.5 | 134.2 | 134.5 | 135.5 | 135.9 | .3 | 1.8 |
| Hospitals | 129.7 | 130.3 | 131.3 | 132.2 | 132.8 | 133.4 | 133.7 | 134.0 | 134.4 | .3 | 1.2 |
| Educational services | 130.3 | 133.2 | 133.7 | 134.4 | 134.8 | 137.5 | 138.0 | 138.5 | 138.8 | .2 | 3.0 |
| Colleges and universities | 131.3 | 134.6 | 135.2 | 135.9 | 136.2 | 138.6 | 139.1 | 139.5 | 139.9 | .3 | 2.7 |
| Nonmanufacturing | 124.6 | 125.5 | 125.9 | 127.2 | 128.2 | 129.1 | 129.8 | 131.1 | 132.1 | .8 | 3.0 |
| White-collar workers | 125.6 | 126.5 | 127.0 | 128.5 | 129.5 | 130.5 | 131.1 | 132.7 | 133.6 | .7 | 3.2 |
| Excluding sales occupations | 127.1 | 128.0 | 128.6 | 130.0 | 130.8 | 132.1 | 132.5 | 134.0 | 135.1 | .8 | 3.3 |
| Blue-collar occupations | 122.5 | 123.5 | 123.7 | 124.6 | 125.6 | 125.9 | 126.7 | 127.5 | 128.6 | .9 | 2.4 |
| Service occupations | 123.5 | 124.2 | 124.7 | 125.3 | 126.0 | 127.0 | 128.6 | 129.4 | 130.5 | .9 | 3.6 |
| **State and local government workers** | 126.9 | 128.7 | 129.3 | 129.9 | 130.2 | 131.9 | 132.7 | 133.2 | 133.3 | .1 | 2.4 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 126.6 | 128.6 | 129.1 | 129.6 | 129.9 | 131.8 | 132.5 | 132.9 | 133.0 | .1 | 2.4 |
| Professional specialty and technical | 126.3 | 128.4 | 128.8 | 129.1 | 129.5 | 131.6 | 132.3 | 132.5 | 132.5 | .0 | 2.3 |
| Executive, administrative, and managerial | 127.4 | 129.1 | 129.9 | 130.7 | 131.0 | 132.0 | 132.9 | 134.1 | 134.4 | .2 | 2.6 |
| Administrative support, including clerical | 126.9 | 128.4 | 129.1 | 130.0 | 130.4 | 131.8 | 133.0 | 133.3 | 133.5 | .2 | 2.4 |
| Blue-collar workers | 126.3 | 127.2 | 128.0 | 129.0 | 129.5 | 130.3 | 131.2 | 132.1 | 132.3 | .2 | 2.2 |
| Workers, by industry division: | | | | | | | | | | | |
| Services | 127.1 | 129.2 | 129.6 | 130.0 | 130.3 | 132.4 | 133.1 | 133.2 | 133.3 | .1 | 2.3 |
| Services excluding schools[5] | 127.7 | 128.9 | 129.4 | 130.3 | 130.8 | 131.9 | 132.0 | 132.5 | 132.9 | .3 | 1.6 |
| Health services | 129.8 | 131.0 | 131.6 | 132.5 | 133.1 | 134.0 | 134.1 | 134.5 | 134.9 | .3 | 1.4 |
| Hospitals | 129.9 | 131.1 | 131.7 | 132.6 | 133.2 | 134.2 | 134.3 | 134.8 | 135.2 | .3 | 1.5 |
| Educational services | 126.8 | 129.0 | 129.4 | 129.7 | 130.0 | 132.3 | 133.0 | 133.1 | 133.2 | .1 | 2.5 |
| Schools | 127.1 | 129.4 | 129.8 | 130.0 | 130.3 | 132.6 | 133.4 | 133.4 | 133.5 | .1 | 2.5 |
| Elementary and secondary | 127.4 | 129.8 | 130.1 | 130.2 | 130.5 | 132.6 | 133.1 | 133.1 | 133.3 | .2 | 2.1 |
| Colleges and universities | 126.1 | 128.0 | 128.7 | 129.4 | 129.9 | 132.5 | 134.0 | 134.3 | 134.1 | –.1 | 3.2 |
| Public administration[3] | 126.1 | 127.4 | 128.3 | 129.2 | 129.6 | 130.7 | 131.8 | 133.0 | 133.0 | .0 | 2.6 |

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

## 22. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended | 12 months ended |
| | | | | | | | | | | June 1997 | |
| **Civilian workers**[1] | 122.2 | 123.2 | 123.9 | 125.1 | 126.1 | 127.2 | 128.0 | 129.2 | 130.1 | 0.7 | 3.2 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 123.1 | 124.3 | 125.1 | 126.3 | 127.3 | 128.6 | 129.3 | 130.6 | 131.5 | .7 | 3.3 |
| Professional specialty and technical | 124.7 | 126.1 | 126.9 | 128.0 | 128.8 | 130.2 | 130.7 | 131.4 | 132.3 | .7 | 2.7 |
| Executive, administrative, and managerial | 122.8 | 123.8 | 124.7 | 126.2 | 127.0 | 129.0 | 129.4 | 131.0 | 132.0 | .8 | 3.9 |
| Administrative support, including clerical | 123.4 | 124.3 | 125.2 | 126.4 | 127.1 | 128.4 | 129.1 | 130.4 | 131.4 | .8 | 3.4 |
| Blue-collar workers | 120.3 | 121.1 | 121.7 | 122.8 | 123.9 | 124.5 | 125.4 | 126.2 | 127.5 | 1.0 | 2.9 |
| Service occupations | 121.8 | 122.8 | 123.4 | 124.2 | 124.9 | 126.2 | 127.6 | 128.6 | 129.3 | .5 | 3.5 |
| Workers, by industry division: | | | | | | | | | | | |
| Goods-producing | 121.4 | 122.1 | 122.9 | 123.9 | 125.1 | 126.1 | 126.8 | 127.6 | 128.9 | 1.0 | 3.0 |
| Manufacturing | 122.9 | 123.5 | 124.3 | 125.4 | 126.5 | 127.7 | 128.4 | 129.1 | 130.3 | .9 | 3.0 |
| Service-producing | 122.5 | 123.7 | 124.3 | 125.6 | 126.5 | 127.7 | 128.5 | 129.8 | 130.6 | .6 | 3.2 |
| Services | 124.8 | 126.2 | 126.9 | 128.0 | 128.9 | 130.3 | 131.1 | 132.0 | 132.9 | .7 | 3.1 |
| Health services | 126.6 | 127.5 | 128.4 | 129.3 | 130.0 | 130.8 | 131.4 | 132.4 | 133.1 | .5 | 2.4 |
| Hospitals | 126.0 | 126.8 | 127.8 | 128.6 | 129.2 | 130.0 | 130.5 | 131.0 | 131.5 | .4 | 1.8 |
| Educational services | 125.1 | 127.8 | 128.5 | 128.8 | 129.1 | 131.6 | 132.3 | 132.5 | 132.6 | .1 | 2.7 |
| Public administration[2] | 122.3 | 123.2 | 124.1 | 124.9 | 125.3 | 126.6 | 127.7 | 128.9 | 129.0 | .1 | 3.0 |
| Nonmanufacturing | 121.9 | 123.1 | 123.7 | 125.0 | 125.9 | 127.0 | 127.8 | 129.1 | 130.0 | .7 | 3.3 |
| **Private industry workers** | 121.5 | 122.4 | 123.1 | 124.4 | 125.6 | 126.5 | 127.3 | 128.6 | 129.7 | .9 | 3.3 |
| Excluding sales occupations | 121.8 | 122.6 | 123.4 | 124.7 | 125.7 | 126.8 | 127.5 | 128.6 | 129.9 | 1.0 | 3.3 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 122.7 | 123.6 | 124.3 | 125.8 | 127.0 | 128.0 | 128.7 | 130.2 | 131.3 | .8 | 3.4 |
| Excluding sales occupations | 123.4 | 124.3 | 125.2 | 126.7 | 127.6 | 129.0 | 129.4 | 130.8 | 132.0 | .9 | 3.4 |
| Professional specialty and technical occupations | 124.4 | 125.3 | 126.1 | 127.8 | 128.8 | 129.6 | 129.9 | 131.0 | 132.4 | 1.1 | 2.8 |
| Executive, administrative, and managerial occupations | 122.5 | 123.4 | 124.4 | 125.9 | 126.8 | 128.9 | 129.3 | 131.0 | 132.1 | .8 | 4.2 |
| Sales occupations | 119.3 | 120.5 | 120.4 | 122.0 | 124.4 | 123.9 | 125.9 | 127.8 | 128.3 | .4 | 3.1 |
| Administrative support occupations, including clerical | 123.5 | 124.3 | 125.3 | 126.5 | 127.3 | 128.5 | 129.2 | 130.6 | 131.7 | .8 | 3.5 |
| Blue-collar workers | 120.1 | 120.8 | 121.4 | 122.5 | 123.7 | 124.3 | 125.1 | 126.0 | 127.3 | 1.0 | 2.9 |
| Precision production, craft, and repair occupations | 119.9 | 121.0 | 121.4 | 122.4 | 123.7 | 124.2 | 125.1 | 125.8 | 127.4 | 1.3 | 3.0 |
| Machine operators, assemblers, and inspectors | 120.9 | 121.4 | 122.3 | 123.4 | 124.5 | 125.4 | 126.4 | 127.2 | 128.5 | 1.0 | 3.2 |
| Transportation and material moving occupations | 117.8 | 118.5 | 118.6 | 120.0 | 120.6 | 121.0 | 121.1 | 122.3 | 123.0 | .6 | 2.0 |
| Handlers, equipment cleaners, helpers, and laborers | 121.2 | 121.5 | 122.6 | 124.2 | 125.1 | 125.8 | 127.1 | 128.4 | 129.3 | .7 | 3.4 |
| Service occupations | 120.0 | 120.8 | 121.4 | 122.2 | 123.0 | 124.1 | 125.7 | 126.6 | 127.6 | .8 | 3.7 |
| Production and nonsupervisory occupations[3] | 121.0 | 121.8 | 122.4 | 123.7 | 124.9 | 125.6 | 126.5 | 127.7 | 128.8 | .9 | 3.1 |
| Workers, by industry division: | | | | | | | | | | | |
| Goods-producing | 121.4 | 122.1 | 122.9 | 123.9 | 125.1 | 126.1 | 126.8 | 127.5 | 128.9 | 1.1 | 3.0 |
| Excluding sales occupations | 120.9 | 121.6 | 122.4 | 123.5 | 124.6 | 125.7 | 126.3 | 127.0 | 128.3 | 1.0 | 3.0 |
| White-collar occupations | 123.8 | 124.4 | 125.3 | 126.2 | 127.3 | 128.6 | 129.1 | 130.0 | 131.4 | 1.1 | 3.2 |
| Excluding sales occupations | 122.5 | 123.2 | 124.2 | 125.3 | 126.3 | 127.7 | 128.1 | 128.9 | 130.0 | .9 | 2.9 |
| Blue-collar occupations | 119.9 | 120.7 | 121.4 | 122.4 | 123.7 | 124.5 | 125.3 | 126.0 | 127.3 | 1.0 | 2.9 |
| Construction | 115.7 | 116.8 | 117.4 | 118.3 | 119.6 | 120.4 | 120.8 | 122.0 | 123.6 | 1.3 | 3.3 |
| Manufacturing | 122.9 | 123.5 | 124.3 | 125.4 | 126.5 | 127.7 | 128.4 | 129.1 | 130.3 | .9 | 3.0 |
| White-collar occupations | 124.7 | 125.3 | 126.1 | 127.1 | 128.2 | 129.6 | 130.1 | 130.6 | 131.9 | 1.0 | 2.9 |
| Excluding sales occupations | 123.2 | 123.9 | 124.8 | 126.0 | 127.0 | 128.4 | 128.9 | 129.3 | 130.5 | .9 | 2.8 |
| Blue-collar occupations | 121.6 | 122.2 | 123.1 | 124.2 | 125.4 | 126.3 | 127.3 | 128.0 | 129.2 | .9 | 3.0 |
| Durables | 122.9 | 123.6 | 124.3 | 125.1 | 126.5 | 127.7 | 128.4 | 129.0 | 130.1 | .9 | 2.8 |
| Nondurables | 122.9 | 123.3 | 124.4 | 125.8 | 126.5 | 127.6 | 128.5 | 129.3 | 130.6 | 1.0 | 3.2 |
| Service-producing | 121.6 | 122.6 | 123.2 | 124.7 | 125.8 | 126.7 | 127.5 | 129.0 | 130.1 | .9 | 3.4 |
| Excluding sales occupations | 122.5 | 123.4 | 124.2 | 125.6 | 126.5 | 127.6 | 128.3 | 129.7 | 130.9 | .9 | 3.5 |
| White-collar occupations | 122.3 | 123.2 | 124.0 | 125.6 | 126.8 | 127.8 | 128.5 | 130.1 | 131.2 | .8 | 3.5 |
| Excluding sales occupations | 123.8 | 124.7 | 125.6 | 127.2 | 128.1 | 129.5 | 129.9 | 131.5 | 132.7 | .9 | 3.6 |
| Blue-collar occupations | 120.3 | 121.1 | 121.4 | 122.7 | 123.5 | 123.8 | 124.8 | 126.0 | 127.2 | 1.0 | 3.0 |
| Service occupations | 119.8 | 120.7 | 121.3 | 122.0 | 122.8 | 124.0 | 125.6 | 126.5 | 127.5 | .8 | 3.8 |
| Transportation and public utilities | 122.0 | 122.9 | 123.7 | 124.6 | 125.0 | 125.9 | 127.0 | 128.2 | 128.8 | .5 | 3.0 |
| Transportation | 119.8 | 121.0 | 121.6 | 122.9 | 123.2 | 123.8 | 124.7 | 126.5 | 126.9 | .3 | 3.0 |
| Public utilities | 124.5 | 125.2 | 126.1 | 126.5 | 127.1 | 128.4 | 129.8 | 130.1 | 130.9 | .6 | 3.0 |
| Communications | 124.6 | 125.3 | 126.2 | 126.1 | 126.5 | 128.2 | 130.3 | 129.8 | 130.6 | .6 | 3.2 |
| Electric, gas, and sanitary services | 124.4 | 125.2 | 125.9 | 127.0 | 127.7 | 128.5 | 129.0 | 130.4 | 131.2 | .6 | 2.7 |
| Wholesale and retail trade | 120.6 | 121.6 | 122.3 | 123.9 | 124.8 | 125.8 | 127.0 | 128.5 | 129.7 | .9 | 3.9 |
| Excluding sales occupations | 120.9 | 121.9 | 123.2 | 124.4 | 124.9 | 126.5 | 127.7 | 129.3 | 131.1 | 1.4 | 5.0 |
| Wholesale trade | 122.7 | 123.9 | 125.5 | 126.1 | 128.0 | 128.5 | 129.6 | 131.4 | 132.2 | .6 | 3.3 |
| Excluding sales occupations | 122.9 | 123.7 | 125.7 | 126.3 | 127.6 | 128.9 | 129.8 | 131.8 | 132.8 | .8 | 4.1 |
| Retail trade | 119.6 | 120.5 | 120.6 | 122.8 | 123.1 | 124.4 | 125.8 | 127.1 | 128.5 | 1.1 | 4.4 |
| Food stores | 117.6 | 118.6 | 119.1 | 120.5 | 121.2 | 123.1 | 124.7 | 124.8 | 124.7 | –.1 | 2.9 |
| General merchandise stores | 118.5 | 119.0 | 120.1 | 121.0 | 121.7 | 122.6 | 124.7 | 125.0 | 126.2 | 1.0 | 3.7 |

See footnotes at end of table.

## 22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended | 12 months ended |
| | | | | | | | | | | June 1997 | |
| Finance, insurance, and real estate | 117.0 | 118.0 | 118.4 | 119.8 | 121.9 | 122.2 | 122.2 | 124.5 | 125.3 | 0.6 | 2.8 |
| Excluding sales occupations | 120.2 | 121.1 | 121.3 | 123.4 | 124.5 | 126.0 | 125.3 | 127.2 | 128.1 | .7 | 2.9 |
| Banking, savings and loan, and other credit agencies | 119.7 | 120.4 | 120.1 | 122.7 | 124.2 | 126.8 | 123.8 | 125.9 | 126.8 | .7 | 2.1 |
| Insurance | 120.8 | 121.1 | 122.2 | 123.6 | 124.1 | 125.4 | 126.0 | 127.9 | 128.0 | .1 | 3.1 |
| Services | 124.4 | 125.3 | 126.0 | 127.6 | 128.7 | 129.7 | 130.5 | 131.8 | 133.0 | .9 | 3.3 |
| Business services | 122.9 | 123.6 | 124.3 | 126.9 | 127.7 | 128.5 | 130.1 | 131.4 | 132.4 | .8 | 3.7 |
| Health services | 126.7 | 127.5 | 128.4 | 129.3 | 130.1 | 130.8 | 131.4 | 132.5 | 133.2 | .5 | 2.4 |
| Hospitals | 125.9 | 126.6 | 127.7 | 128.5 | 129.1 | 129.7 | 130.3 | 130.7 | 131.2 | .4 | 1.6 |
| Educational services | 125.9 | 128.6 | 129.4 | 130.1 | 130.4 | 133.3 | 133.8 | 134.5 | 134.5 | .2 | 3.4 |
| Colleges and universities | 125.9 | 129.0 | 130.1 | 130.6 | 130.9 | 133.4 | 133.8 | 134.6 | 135.0 | .3 | 3.1 |
| Nonmanufacturing | 120.9 | 121.9 | 122.5 | 123.9 | 125.1 | 125.9 | 126.8 | 128.2 | 129.3 | .9 | 3.4 |
| White-collar workers | 122.1 | 123.1 | 123.8 | 125.4 | 126.6 | 127.6 | 128.3 | 129.9 | 131.0 | .8 | 3.5 |
| Excluding sales occupations | 123.5 | 124.4 | 125.4 | 126.9 | 127.8 | 129.2 | 129.6 | 131.2 | 132.4 | .9 | 3.6 |
| Blue-collar occupations | 118.5 | 119.4 | 119.8 | 120.9 | 122.0 | 122.4 | 123.1 | 124.1 | 125.5 | 1.1 | 2.9 |
| Service occupations | 119.8 | 120.6 | 121.2 | 122.0 | 122.7 | 123.9 | 125.5 | 126.4 | 127.4 | .8 | 3.8 |
| **State and local government workers** | 124.6 | 126.6 | 127.3 | 127.8 | 128.1 | 130.1 | 130.9 | 131.4 | 131.5 | .1 | 2.7 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 124.8 | 126.8 | 127.4 | 127.9 | 128.2 | 130.3 | 131.1 | 131.4 | 131.5 | .1 | 2.6 |
| Professional specialty and technical | 125.0 | 127.4 | 128.0 | 128.3 | 128.6 | 131.1 | 131.7 | 131.9 | 132.0 | .1 | 2.6 |
| Executive, administrative, and managerial | 124.3 | 126.0 | 126.9 | 127.7 | 128.0 | 129.3 | 130.2 | 131.3 | 131.7 | .3 | 2.9 |
| Administrative support, including clerical | 122.9 | 124.4 | 125.1 | 125.8 | 126.1 | 127.7 | 129.0 | 129.2 | 129.5 | .2 | 2.7 |
| Blue-collar workers | 123.8 | 124.8 | 125.7 | 126.6 | 127.0 | 127.9 | 128.8 | 129.6 | 129.8 | .2 | 2.2 |
| Workers, by industry division: | | | | | | | | | | | |
| Services | 125.1 | 127.6 | 128.2 | 128.6 | 128.9 | 131.2 | 131.9 | 132.1 | 132.2 | .1 | 2.6 |
| Services excluding schools[4] | 125.5 | 126.9 | 127.4 | 128.2 | 128.7 | 130.1 | 130.5 | 131.2 | 131.6 | .3 | 2.3 |
| Health services | 126.6 | 127.9 | 128.6 | 129.3 | 129.9 | 131.1 | 131.4 | 132.1 | 132.6 | .4 | 2.1 |
| Hospitals | 126.3 | 127.6 | 128.4 | 129.1 | 129.7 | 130.9 | 131.3 | 131.9 | 132.4 | .4 | 2.1 |
| Educational services | 124.9 | 127.7 | 128.3 | 128.5 | 128.8 | 131.3 | 132.0 | 132.1 | 132.2 | .1 | 2.6 |
| Schools | 125.1 | 127.8 | 128.4 | 128.7 | 128.9 | 131.4 | 132.2 | 132.2 | 132.3 | .1 | 2.6 |
| Elementary and secondary | 125.8 | 128.7 | 129.2 | 129.3 | 129.5 | 132.0 | 132.4 | 132.4 | 132.6 | .2 | 2.4 |
| Colleges and universities | 122.9 | 125.0 | 125.9 | 126.8 | 127.1 | 129.8 | 131.2 | 131.5 | 131.4 | –.1 | 3.4 |
| Public administration[2] | 122.3 | 123.2 | 124.1 | 124.9 | 125.3 | 126.6 | 127.7 | 128.9 | 129.0 | .1 | 3.0 |

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

## 23. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended | 12 months ended |
| | | | | | | | | | | June 1997 | |
| **Private industry workers** | 135.1 | 135.6 | 135.9 | 136.6 | 137.4 | 138.1 | 138.6 | 139.4 | 140.1 | 0.5 | 2.0 |
| Workers, by occupational group: | | | | | | | | | | | |
| White-collar workers | 136.0 | 136.6 | 136.7 | 137.7 | 138.4 | 139.5 | 139.7 | 140.8 | 141.5 | .5 | 2.2 |
| Blue-collar workers | 133.6 | 134.1 | 134.7 | 135.2 | 136.1 | 136.2 | 137.0 | 137.2 | 138.0 | .6 | 1.4 |
| Workers, by industry division: | | | | | | | | | | | |
| Goods-producing | 135.9 | 136.2 | 137.1 | 137.7 | 138.6 | 138.8 | 139.7 | 139.9 | 140.9 | .7 | 1.7 |
| Service-producing | 134.1 | 134.8 | 134.7 | 135.5 | 136.2 | 137.2 | 137.4 | 138.5 | 139.2 | .5 | 2.2 |
| Manufacturing | 135.2 | 135.5 | 136.7 | 137.5 | 138.5 | 138.8 | 139.8 | 139.9 | 141.0 | .8 | 1.8 |
| Nonmanufacturing | 134.7 | 135.4 | 135.3 | 136.0 | 136.7 | 137.5 | 137.9 | 138.9 | 139.5 | .4 | 2.0 |

## 24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

| Series | 1995 | | | 1996 | | | | 1997 | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | June | Sept. | Dec. | Mar. | June | Sept. | Dec. | Mar. | June | 3 months ended | 12 months ended |
| | | | | | | | | | | June 1997 | |
| **COMPENSATION** | | | | | | | | | | | |
| **Workers, by bargaining status[1]** | | | | | | | | | | | |
| Union | 125.8 | 126.8 | 127.7 | 128.5 | 129.7 | 130.1 | 130.8 | 131.0 | 131.8 | 0.6 | 1.6 |
| Goods-producing | 125.9 | 126.7 | 127.5 | 127.9 | 129.0 | 129.2 | 129.8 | 130.0 | 131.2 | .9 | 1.7 |
| Service-producing | 125.6 | 126.8 | 127.9 | 129.0 | 130.3 | 131.0 | 131.7 | 131.9 | 132.4 | .4 | 1.6 |
| Manufacturing | 126.6 | 127.1 | 128.1 | 128.8 | 129.8 | 129.8 | 130.6 | 130.8 | 131.7 | .7 | 1.5 |
| Nonmanufacturing | 125.0 | 126.2 | 127.1 | 128.0 | 129.2 | 129.9 | 130.4 | 130.6 | 131.5 | .7 | 1.8 |
| Nonunion | 125.2 | 126.0 | 126.5 | 127.7 | 128.7 | 129.7 | 130.4 | 131.8 | 132.8 | .8 | 3.2 |
| Goods-producing | 125.9 | 126.4 | 127.2 | 128.3 | 129.4 | 130.4 | 131.3 | 132.0 | 133.2 | .9 | 2.9 |
| Service-producing | 124.8 | 125.6 | 126.0 | 127.3 | 128.3 | 129.2 | 129.9 | 131.5 | 132.5 | .8 | 3.3 |
| Manufacturing | 126.9 | 127.3 | 128.3 | 129.3 | 130.5 | 131.7 | 132.5 | 133.1 | 134.4 | 1.0 | 3.0 |
| Nonmanufacturing | 124.5 | 125.3 | 125.7 | 127.0 | 128.0 | 128.9 | 129.6 | 131.1 | 132.2 | .8 | 3.3 |
| **Workers, by region[1]** | | | | | | | | | | | |
| Northeast | 126.6 | 127.4 | 127.8 | 128.9 | 129.7 | 130.6 | 131.1 | 132.2 | 133.1 | .7 | 2.6 |
| South | 124.3 | 125.2 | 125.6 | 127.0 | 127.8 | 128.8 | 129.7 | 130.8 | 131.5 | .5 | 2.9 |
| Midwest (formerly North Central) | 126.9 | 127.7 | 128.3 | 129.5 | 130.7 | 131.3 | 132.1 | 133.3 | 134.7 | 1.1 | 3.1 |
| West | 123.4 | 123.9 | 125.0 | 125.9 | 127.3 | 128.3 | 128.9 | 130.3 | 131.4 | .8 | 3.2 |
| **Workers, by area size[1]** | | | | | | | | | | | |
| Metropolitan areas | 125.4 | 126.2 | 126.8 | 128.0 | 129.1 | 130.0 | 130.6 | 131.7 | 132.8 | .8 | 2.9 |
| Other areas | 125.3 | 126.1 | 126.5 | 127.2 | 128.0 | 128.7 | 130.2 | 131.4 | 132.4 | .8 | 3.4 |
| **WAGES AND SALARIES** | | | | | | | | | | | |
| **Workers, by bargaining status[1]** | | | | | | | | | | | |
| Union | 120.6 | 121.5 | 122.2 | 122.8 | 124.2 | 124.8 | 125.4 | 126.0 | 126.9 | .7 | 2.2 |
| Goods-producing | 119.3 | 120.2 | 120.6 | 121.3 | 122.5 | 123.2 | 123.6 | 124.1 | 125.4 | 1.0 | 2.4 |
| Service-producing | 122.3 | 123.2 | 124.2 | 124.8 | 126.2 | 126.8 | 127.6 | 128.2 | 128.8 | .5 | 2.1 |
| Manufacturing | 120.5 | 121.3 | 122.0 | 122.9 | 123.9 | 124.5 | 125.2 | 125.6 | 126.5 | .7 | 2.1 |
| Nonmanufacturing | 120.6 | 121.6 | 122.3 | 122.8 | 124.3 | 124.9 | 125.5 | 126.1 | 127.1 | .8 | 2.3 |
| Nonunion | 121.8 | 122.6 | 123.3 | 124.8 | 125.9 | 126.9 | 127.7 | 129.1 | 130.3 | .9 | 3.5 |
| Goods-producing | 122.2 | 122.9 | 123.8 | 124.9 | 126.1 | 127.3 | 128.0 | 128.9 | 130.2 | 1.0 | 3.3 |
| Service-producing | 121.5 | 122.4 | 123.0 | 124.6 | 125.7 | 126.6 | 127.5 | 129.1 | 130.2 | .9 | 3.6 |
| Manufacturing | 123.8 | 124.3 | 125.2 | 126.3 | 127.5 | 128.8 | 129.6 | 130.3 | 131.7 | 1.1 | 3.3 |
| Nonmanufacturing | 121.0 | 121.9 | 122.6 | 124.2 | 125.2 | 126.1 | 127.0 | 128.5 | 129.7 | .9 | 3.6 |
| **Workers, by region[1]** | | | | | | | | | | | |
| Northeast | 122.1 | 123.1 | 123.6 | 124.9 | 126.0 | 127.0 | 127.7 | 128.8 | 129.8 | .8 | 3.0 |
| South | 120.8 | 121.8 | 122.4 | 124.1 | 125.1 | 126.0 | 127.0 | 128.5 | 129.4 | .7 | 3.4 |
| Midwest (formerly North Central) | 122.2 | 123.0 | 123.6 | 125.1 | 126.2 | 126.9 | 127.7 | 129.0 | 130.4 | 1.1 | 3.3 |
| West | 120.9 | 121.4 | 122.7 | 123.3 | 124.8 | 125.8 | 126.5 | 127.7 | 128.9 | .9 | 3.3 |
| **Workers, by area size[1]** | | | | | | | | | | | |
| Metropolitan areas | 121.6 | 122.4 | 123.2 | 124.6 | 125.8 | 126.7 | 127.4 | 128.7 | 129.9 | .9 | 3.3 |
| Other areas | 121.3 | 122.1 | 122.4 | 123.4 | 124.2 | 125.0 | 126.5 | 127.7 | 128.8 | .9 | 3.7 |

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

## 25. Percent of full-time employees participating in employer-provided benefit plans, 1980–91

| Item | Medium and large private establishments[1] | | | | | | | | | | Small private establishments[2] | State and local governments[3] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1988 | 1989 | 1991 | 1990 | 1987 | 1990 |
| **Time-off plans** | | | | | | | | | | | | | |
| Participants with: | | | | | | | | | | | | | |
| Paid lunch time | 10 | 10 | 9 | 11 | 9 | 10 | 10 | 11 | 10 | 8 | 8 | [4] 17 | 11 |
| Average minutes per day | – | – | 25 | 25 | 26 | 27 | 27 | 29 | 26 | 30 | 37 | 34 | 36 |
| Paid rest time | 75 | 75 | 76 | 74 | 73 | 72 | 72 | 72 | 71 | 67 | 48 | [4] 58 | 56 |
| Average minutes per day | – | – | 25 | 25 | 26 | 26 | 26 | 26 | 26 | 26 | 27 | 29 | 29 |
| Paid funeral leave | – | – | – | – | – | 88 | 88 | 85 | 84 | 80 | 47 | 56 | 63 |
| Average days per occurrence | – | – | – | – | – | 3.2 | 3.2 | 3.2 | 3.3 | 3.3 | 2.9 | 3.7 | 3.7 |
| Paid holidays | 99 | 99 | 99 | 99 | 99 | 98 | 99 | 96 | 97 | 92 | 84 | 81 | 74 |
| Average days per year | 10.1 | 10.2 | 10.0 | 9.8 | 9.8 | 10.1 | 10.0 | 9.4 | 9.2 | 10.2 | 9.5 | 10.9 | 13.6 |
| Paid personal leave | 20 | 23 | 24 | 25 | 23 | 26 | 25 | 24 | 22 | 21 | 11 | 38 | 39 |
| Average days per year | – | – | 3.8 | 3.7 | 3.6 | 3.7 | 3.7 | 3.3 | 3.1 | 3.3 | 2.8 | 2.7 | 2.9 |
| Paid vacations | 100 | 99 | 99 | 100 | 99 | 99 | 100 | 98 | 97 | 96 | 88 | 72 | 67 |
| Paid sick leave | 62 | 65 | 67 | 67 | 67 | 67 | 70 | 69 | 68 | 67 | 47 | 97 | 95 |
| Unpaid maternity leave | – | – | – | – | – | – | – | 33 | 37 | 37 | 17 | 57 | 51 |
| Unpaid sick leave | – | – | – | – | – | – | – | 16 | 18 | 26 | 8 | 30 | 33 |
| **Insurance plans** | | | | | | | | | | | | | |
| Participants in medical care plans | 97 | 97 | 97 | 96 | 97 | 96 | 95 | 90 | 92 | 83 | 69 | 93 | 93 |
| Participants with coverage for: | | | | | | | | | | | | | |
| Home health care | – | – | – | 37 | 46 | 56 | 66 | 76 | 75 | 81 | 79 | 76 | 82 |
| Extended care facilities | 58 | 60 | 62 | 58 | 62 | 67 | 70 | 79 | 80 | 80 | 83 | 78 | 79 |
| Mental health care | 98 | 99 | 99 | 99 | 99 | 99 | 99 | 98 | 97 | 98 | 98 | 98 | 99 |
| Alcohol abuse treatment | – | – | 50 | 53 | 61 | 68 | 70 | 80 | 97 | 97 | 97 | 87 | 99 |
| Drug abuse treatment | – | – | 37 | 43 | 52 | 61 | 66 | 74 | 96 | 96 | 94 | 86 | 98 |
| Participants with employee contribution required for: | | | | | | | | | | | | | |
| Self coverage | 26 | 27 | 27 | 33 | 36 | 36 | 43 | 44 | 47 | 51 | 42 | 35 | 38 |
| Average monthly contribution | – | – | – | $10.13 | $11.93 | $12.05 | $12.80 | $19.29 | $25.31 | $26.60 | $25.13 | $15.74 | $25.53 |
| Family coverage | 46 | 49 | 51 | 54 | 58 | 56 | 63 | 64 | 66 | 69 | 67 | 71 | 65 |
| Average monthly contribution[5] | – | – | – | $32.51 | $35.93 | $38.33 | $41.40 | $60.07 | $72.10 | $96.97 | $109.34 | $71.89 | $ 117.59 |
| Participants in life insurance plans | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 92 | 94 | 94 | 64 | 85 | 88 |
| Participants with: | | | | | | | | | | | | | |
| Accidental death and dismemberment insurance | 69 | 72 | 72 | 72 | 74 | 73 | 72 | 76 | 71 | 71 | 78 | 67 | 67 |
| Survivor income benefits | – | – | – | – | – | 13 | 10 | 8 | 7 | 6 | 1 | 1 | 1 |
| Retiree protection available | – | 64 | 64 | 66 | 64 | 62 | 59 | 49 | 42 | 44 | 19 | 55 | 45 |
| Participants in long-term disability insurance plans | 40 | 41 | 43 | 45 | 47 | 48 | 48 | 42 | 45 | 40 | 19 | 31 | 27 |
| Participants in sickness and accident insurance plans | 54 | 50 | 51 | 49 | 51 | 52 | 49 | 46 | 43 | 45 | 26 | 14 | 21 |
| **Retirement plans** | | | | | | | | | | | | | |
| Participants in defined benefit pension plans[6] | 84 | 84 | 84 | 82 | 82 | 80 | 76 | 63 | 63 | 59 | 20 | 93 | 90 |
| Participants with: | | | | | | | | | | | | | |
| Normal retirement prior to age 65 | 55 | 56 | 58 | 64 | 63 | 67 | 64 | 59 | 62 | 55 | 54 | 92 | 89 |
| Early retirement available | 98 | 98 | 97 | 97 | 97 | 97 | 96 | 98 | 97 | 98 | 95 | 90 | 88 |
| Ad hoc pension increases in last 5 years | – | – | – | 51 | 47 | 41 | 35 | 26 | 22 | 7 | 7 | 33 | 16 |
| Terminal earnings formula | 53 | 50 | 52 | 54 | 54 | 57 | 57 | 55 | 64 | 56 | 58 | 100 | 100 |
| Benefit coordinated with Social Security | 45 | 43 | 45 | 55 | 56 | 61 | 62 | 62 | 63 | 54 | 49 | 18 | 8 |
| Participants in defined contribution plans | – | – | – | – | – | [7] 53 | [7] 60 | 45 | 48 | 48 | 31 | 9 | 9 |
| Participants in plans with tax-deferred savings arrangements | – | – | – | – | – | 26 | 33 | 36 | 41 | 44 | 17 | 28 | 45 |
| **Other benefits** | | | | | | | | | | | | | |
| Employees eligible for: | | | | | | | | | | | | | |
| Flexible benefits plans | – | – | – | – | – | – | 2 | 5 | 9 | 10 | 1 | 5 | 5 |
| Reimbursement accounts | – | – | – | – | – | – | 5 | 12 | 23 | 36 | 8 | 5 | 31 |

[1] From 1979 to 1986, data were collected in private sector establishments with a minimum employment varying from 50 to 250 employees, depending upon industry. In addition, coverage in service industries was limited. Beginning in 1988, data were collected in all private sector establishments employing 100 workers or more in all industries.

[2] Includes private sector establishments with fewer than 100 workers.

[3] In 1987, coverage excluded local governments employing fewer than 50 workers. In 1990, coverage included all State and local governments.

[4] Data exclude college teachers.

[5] Data for 1983 refer to the average monthly employee contribution for dependent coverage, excluding the employee. Beginning in 1984, the data refer to the average monthly employee contribution for family coverage, which includes the employee.

[6] Prior to 1985, data on participation in defined benefit pension plans included a small percentage of workers participating in money purchase pension plans. Beginning in 1985, these workers were classified as participating in defined contribution plans.

[7] Includes employees who participated in Payroll-based Employee Stock Ownership Plans. Beginning in 1987, these plans were no longer available.

NOTE: Dash indicates data were not collected in this year.

## 26. Work stoppages involving 1,000 workers or more

| Measure | Annual totals | | 1996 | | | | | | | | | | | | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan.[P] |
| Number of stoppages: | | | | | | | | | | | | | | | |
| Beginning in period | 31 | 37 | 3 | 6 | 3 | 4 | 1 | 7 | 2 | 0 | 3 | 5 | 2 | 1 | 1 |
| In effect during period | 34 | 38 | 4 | 9 | 7 | 7 | 4 | 11 | 7 | 5 | 6 | 8 | 7 | 5 | 6 |
| Workers involved: | | | | | | | | | | | | | | | |
| Beginning in period (in thousands) | 192 | 273 | 34.6 | 22.1 | 138.1 | 4.7 | 12.0 | 30.4 | 3.6 | .0 | 6.3 | 15.5 | 3.3 | 2.1 | 4.3 |
| In effect during period (in thousands) | 207 | 275 | 37.1 | 55.7 | 146.4 | 9.4 | 16.6 | 42.0 | 24.6 | 17.9 | 16.6 | 22.9 | 19.5 | 12.0 | 16.3 |
| Days idle: | | | | | | | | | | | | | | | |
| Number (in thousands) | 5,771 | 4,889 | 634.8 | 235.2 | 1,392.5 | 114.5 | 257.2 | 610.8 | 379.4 | 364.2 | 194.7 | 243.9 | 234.6 | 226.8 | 237.8 |
| Percent of estimated working time[1] | .02 | .02 | .03 | .01 | .05 | .00 | .01 | .02 | .01 | .01 | .01 | .01 | .01 | .01 | .01 |

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[P] = preliminary.

## 27. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

| Series | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| **CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS** | | | | | | | | | | | | | | | |
| All items | 152.4 | 156.9 | 157.0 | 157.3 | 157.8 | 158.3 | 158.6 | 158.6 | 159.1 | 159.6 | 160.0 | 160.2 | 160.1 | 160.3 | 160.5 |
| All items (1967 = 100) | 456.5 | 469.9 | 470.4 | 471.1 | 472.7 | 474.1 | 475.0 | 475.0 | 476.7 | 478.2 | 479.3 | 479.7 | 479.6 | 480.2 | 480.7 |
| Food and beverages | 148.9 | 153.7 | 153.6 | 154.2 | 155.0 | 155.8 | 156.2 | 156.6 | 156.9 | 156.9 | 157.1 | 157.1 | 157.1 | 157.1 | 157.5 |
| Food | 148.4 | 153.3 | 153.2 | 153.7 | 154.6 | 155.4 | 155.9 | 156.3 | 156.5 | 156.5 | 156.6 | 156.6 | 156.6 | 156.6 | 157.0 |
| Food at home | 148.8 | 154.3 | 154.1 | 154.8 | 155.9 | 156.8 | 157.2 | 157.7 | 157.9 | 157.7 | 157.7 | 157.5 | 157.5 | 157.3 | 157.7 |
| Cereals and bakery products | 167.5 | 174.0 | 174.8 | 175.0 | 174.7 | 175.1 | 175.4 | 175.7 | 176.5 | 176.7 | 176.7 | 176.9 | 176.9 | 178.2 | 178.3 |
| Meats, poultry, fish, and eggs | 138.8 | 144.8 | 143.9 | 145.5 | 147.2 | 147.9 | 148.9 | 150.0 | 149.6 | 148.8 | 147.8 | 147.7 | 147.7 | 147.9 | 148.2 |
| Dairy products | 132.8 | 142.1 | 142.0 | 144.6 | 148.7 | 149.3 | 149.3 | 148.6 | 147.8 | 146.2 | 146.1 | 145.7 | 145.4 | 144.1 | 143.3 |
| Fruits and vegetables | 177.7 | 183.9 | 184.0 | 182.1 | 183.6 | 185.1 | 186.3 | 187.2 | 187.3 | 187.4 | 189.3 | 186.4 | 186.4 | 183.7 | 184.6 |
| Other foods at home | 140.8 | 142.9 | 142.9 | 143.2 | 143.6 | 143.9 | 143.4 | 143.6 | 144.8 | 145.4 | 145.5 | 146.9 | 147.1 | 147.8 | 148.6 |
| Sugar and sweets | 137.5 | 143.7 | 144.6 | 144.6 | 145.4 | 145.7 | 144.2 | 144.7 | 146.9 | 147.2 | 146.3 | 147.9 | 147.9 | 148.1 | 149.2 |
| Fats and oils | 137.3 | 140.5 | 140.5 | 140.9 | 141.5 | 141.6 | 140.8 | 140.7 | 142.3 | 142.7 | 142.4 | 142.4 | 142.0 | 141.6 | 141.4 |
| Nonalcoholic beverages | 131.7 | 128.6 | 127.5 | 128.5 | 127.9 | 127.6 | 127.2 | 126.9 | 128.3 | 128.5 | 129.5 | 131.9 | 133.4 | 134.8 | 136.3 |
| Other prepared foods | 151.1 | 156.2 | 156.8 | 156.4 | 157.5 | 158.5 | 158.3 | 158.9 | 159.4 | 160.6 | 160.3 | 161.1 | 160.4 | 161.2 | 161.3 |
| Food away from home | 149.0 | 152.7 | 152.8 | 153.1 | 153.5 | 154.2 | 154.7 | 155.0 | 155.3 | 155.6 | 156.0 | 156.2 | 156.3 | 156.6 | 157.1 |
| Alcoholic beverages | 153.9 | 158.5 | 158.5 | 158.9 | 159.5 | 160.1 | 160.2 | 160.5 | 161.1 | 161.8 | 162.1 | 162.3 | 162.8 | 162.7 | 162.9 |
| Housing | 148.5 | 152.8 | 153.6 | 154.0 | 153.9 | 154.0 | 153.9 | 154.0 | 155.1 | 155.8 | 155.9 | 155.8 | 155.9 | 156.9 | 157.5 |
| Shelter | 165.7 | 171.0 | 171.9 | 172.3 | 172.0 | 172.5 | 172.4 | 172.3 | 173.6 | 174.6 | 175.2 | 175.3 | 175.3 | 176.0 | 177.0 |
| Renters' costs (12/82 = 100) | 174.3 | 180.2 | 183.0 | 183.4 | 180.9 | 181.3 | 179.9 | 179.1 | 182.7 | 185.3 | 186.8 | 186.3 | 185.3 | 186.6 | 188.4 |
| Rent, residential | 157.8 | 162.0 | 162.2 | 162.5 | 162.9 | 163.3 | 163.7 | 164.0 | 164.4 | 164.8 | 165.1 | 165.5 | 165.9 | 166.4 | 166.8 |
| Other renters' costs | 204.3 | 214.7 | 225.4 | 225.9 | 214.8 | 214.9 | 207.9 | 203.8 | 217.3 | 226.4 | 231.7 | 228.0 | 222.9 | 226.7 | 232.6 |
| Homeowners' costs (12/82 = 100) | 171.0 | 176.5 | 176.6 | 177.0 | 177.5 | 178.1 | 178.6 | 178.8 | 179.1 | 179.5 | 179.8 | 180.2 | 180.6 | 181.1 | 181.7 |
| Owners' equivalent rent (12/82 = 100) | 171.3 | 176.8 | 176.9 | 177.3 | 177.9 | 178.4 | 178.9 | 179.1 | 179.5 | 179.9 | 180.1 | 180.5 | 180.9 | 181.4 | 182.1 |
| Household insurance | 157.4 | 161.0 | 162.0 | 162.3 | 162.3 | 163.4 | 164.6 | 162.4 | 162.6 | 163.8 | 163.3 | 163.8 | 164.5 | 165.3 | 165.7 |
| Maintenance and repairs | 135.0 | 139.0 | 139.4 | 139.7 | 139.9 | 140.2 | 141.1 | 141.5 | 141.5 | 142.3 | 142.4 | 142.5 | 143.2 | 143.3 | 145.4 |
| Maintenance and repair services | 139.8 | 145.5 | 146.3 | 147.1 | 147.4 | 147.3 | 147.6 | 148.0 | 148.2 | 148.4 | 148.4 | 148.9 | 149.9 | 150.0 | 153.8 |
| Maintenance and repair commodities | 128.5 | 130.2 | 130.1 | 129.6 | 129.5 | 130.5 | 132.3 | 132.6 | 132.5 | 133.9 | 134.3 | 133.6 | 134.1 | 134.1 | 133.7 |
| Fuel and other utilities | 123.7 | 127.5 | 129.0 | 129.4 | 129.8 | 128.7 | 128.4 | 129.4 | 130.8 | 131.0 | 129.9 | 128.9 | 129.0 | 131.9 | 132.1 |
| Fuels | 111.5 | 115.2 | 117.4 | 117.9 | 118.4 | 116.2 | 115.7 | 117.1 | 119.1 | 119.2 | 117.2 | 115.3 | 115.3 | 119.8 | 119.6 |
| Fuel oil, coal, and bottled gas | 88.1 | 99.2 | 92.3 | 92.2 | 95.6 | 102.9 | 105.9 | 110.3 | 111.5 | 109.6 | 105.5 | 102.1 | 100.4 | 98.0 | 94.7 |
| Gas (piped) and electricity | 119.2 | 122.1 | 125.6 | 126.1 | 126.2 | 122.7 | 121.7 | 122.8 | 124.9 | 125.3 | 123.4 | 121.7 | 121.9 | 127.5 | 127.8 |
| Other utilities and public services | 152.8 | 157.2 | 157.5 | 158.0 | 158.3 | 158.6 | 158.9 | 159.1 | 159.7 | 160.2 | 160.5 | 160.8 | 161.1 | 161.7 | 162.4 |
| Household furnishings and operations | 123.0 | 124.7 | 124.7 | 124.8 | 125.1 | 125.0 | 124.8 | 125.0 | 124.9 | 125.2 | 125.4 | 125.5 | 125.8 | 125.7 | 125.6 |
| Housefurnishings | 111.2 | 111.3 | 111.2 | 111.3 | 111.5 | 111.1 | 110.8 | 111.0 | 110.8 | 111.2 | 111.1 | 111.1 | 111.5 | 111.2 | 110.7 |
| Housekeeping supplies | 137.1 | 141.1 | 141.1 | 141.1 | 141.2 | 141.6 | 141.8 | 141.4 | 142.3 | 142.5 | 142.8 | 143.3 | 143.0 | 142.9 | 144.0 |
| Housekeeping services | 143.7 | 148.0 | 148.6 | 148.6 | 149.4 | 149.9 | 149.6 | 150.1 | 149.6 | 149.9 | 150.6 | 151.1 | 151.3 | 151.8 | 152.1 |
| Apparel and upkeep | 132.0 | 131.7 | 128.3 | 128.1 | 131.5 | 133.4 | 133.4 | 130.3 | 129.6 | 131.9 | 134.5 | 136.1 | 135.3 | 132.4 | 130.2 |
| Apparel commodities | 128.7 | 128.2 | 124.5 | 124.2 | 127.8 | 130.0 | 129.9 | 126.5 | 125.8 | 128.2 | 131.0 | 132.7 | 131.8 | 128.6 | 126.2 |
| Men's and boys' apparel | 126.2 | 127.7 | 125.1 | 126.2 | 127.4 | 129.2 | 131.2 | 127.8 | 127.0 | 127.3 | 129.2 | 131.4 | 132.0 | 129.0 | 128.0 |
| Women's and girls' apparel | 126.9 | 124.7 | 118.5 | 118.1 | 123.6 | 127.1 | 126.7 | 123.3 | 121.5 | 126.1 | 130.1 | 131.9 | 129.9 | 125.6 | 121.1 |
| Infants' and toddlers' apparel | 127.2 | 129.7 | 125.7 | 125.1 | 131.4 | 128.5 | 126.7 | 126.9 | 127.9 | 127.2 | 129.7 | 133.7 | 133.8 | 132.9 | 131.3 |
| Footwear | 125.4 | 126.6 | 125.6 | 124.7 | 126.7 | 128.0 | 127.7 | 125.9 | 125.0 | 126.3 | 127.0 | 129.3 | 129.1 | 126.3 | 125.9 |
| Other apparel commodities | 152.4 | 150.6 | 151.5 | 149.3 | 151.9 | 152.0 | 149.0 | 141.6 | 145.6 | 146.9 | 149.5 | 148.1 | 146.0 | 146.4 | 146.9 |
| Apparel services | 157.3 | 159.8 | 159.9 | 160.3 | 160.4 | 160.6 | 160.9 | 161.5 | 161.7 | 162.2 | 162.4 | 162.6 | 162.9 | 163.2 | 163.5 |
| Transportation | 139.1 | 143.0 | 143.5 | 142.8 | 143.2 | 143.9 | 144.8 | 145.2 | 145.0 | 144.8 | 144.9 | 144.8 | 144.4 | 144.0 | 143.7 |
| Private transportation | 136.3 | 140.0 | 140.5 | 139.9 | 140.0 | 140.5 | 141.5 | 141.7 | 141.8 | 141.9 | 141.5 | 141.3 | 141.0 | 140.7 | 140.1 |
| New vehicles | 141.0 | 143.7 | 143.2 | 142.9 | 143.2 | 143.8 | 144.8 | 145.4 | 145.4 | 145.4 | 145.4 | 145.2 | 144.6 | 144.2 | 143.7 |
| New cars | 139.0 | 141.4 | 141.0 | 140.7 | 141.0 | 141.5 | 142.3 | 143.0 | 143.0 | 142.9 | 142.9 | 142.6 | 142.1 | 141.7 | 141.1 |
| Used cars | 156.5 | 157.0 | 156.9 | 156.6 | 157.0 | 157.0 | 156.5 | 155.6 | 154.7 | 154.4 | 154.4 | 154.3 | 153.9 | 151.8 | 149.9 |
| Motor fuel | 100.0 | 106.3 | 108.9 | 106.4 | 106.2 | 105.9 | 107.8 | 108.6 | 108.6 | 108.1 | 106.4 | 106.0 | 105.7 | 105.9 | 103.9 |
| Gasoline | 99.8 | 105.9 | 108.8 | 106.1 | 105.7 | 105.2 | 107.1 | 107.9 | 107.9 | 107.4 | 105.8 | 105.4 | 105.2 | 105.4 | 103.5 |
| Maintenance and repair | 154.0 | 158.4 | 158.1 | 158.6 | 160.0 | 160.5 | 160.5 | 160.6 | 161.1 | 161.2 | 161.5 | 161.9 | 162.2 | 162.6 | 162.9 |
| Other private transportation | 170.6 | 173.9 | 173.5 | 174.1 | 174.1 | 175.4 | 176.2 | 176.0 | 176.2 | 177.1 | 177.4 | 177.3 | 177.0 | 176.7 | 177.5 |
| Other private transportation commodities | 104.8 | 105.1 | 104.7 | 104.8 | 105.0 | 105.0 | 105.1 | 105.2 | 105.2 | 105.4 | 105.1 | 104.7 | 104.7 | 104.7 | 105.3 |
| Other private transportation services | 186.0 | 190.1 | 189.7 | 190.4 | 190.3 | 192.0 | 193.0 | 192.7 | 193.0 | 194.1 | 194.5 | 194.5 | 194.2 | 193.8 | 194.5 |
| Public transportation | 175.9 | 181.9 | 182.7 | 181.4 | 184.6 | 187.2 | 187.3 | 189.9 | 185.8 | 182.4 | 188.1 | 189.8 | 188.1 | 186.6 | 189.4 |
| Medical care | 220.5 | 228.2 | 228.7 | 229.2 | 229.4 | 230.1 | 230.5 | 230.6 | 231.8 | 232.7 | 233.4 | 233.8 | 234.2 | 234.4 | 234.8 |
| Medical care commodities | 204.5 | 210.4 | 211.0 | 211.1 | 211.2 | 212.4 | 211.9 | 212.0 | 212.8 | 213.9 | 214.7 | 215.2 | 215.6 | 216.0 | 216.0 |
| Medical care services | 224.2 | 232.4 | 232.9 | 233.4 | 233.6 | 234.2 | 234.9 | 235.0 | 236.3 | 237.1 | 237.7 | 238.1 | 238.5 | 238.7 | 239.2 |
| Professional services | 201.0 | 208.3 | 208.7 | 209.2 | 209.6 | 210.2 | 210.9 | 211.0 | 212.2 | 213.2 | 214.2 | 214.7 | 215.2 | 215.5 | 215.9 |
| Hospital and related services | 257.8 | 269.5 | 270.3 | 271.2 | 271.6 | 272.4 | 273.2 | 273.7 | 275.7 | 276.6 | 276.7 | 277.0 | 277.3 | 277.4 | 278.1 |
| Entertainment | 153.9 | 159.1 | 159.0 | 159.2 | 159.8 | 160.1 | 160.7 | 160.8 | 161.3 | 161.8 | 162.1 | 162.2 | 162.2 | 162.7 | 162.6 |
| Entertainment commodities | 138.7 | 143.0 | 142.9 | 143.2 | 143.3 | 143.6 | 144.0 | 144.1 | 144.2 | 144.3 | 144.5 | 144.1 | 143.9 | 143.9 | 143.8 |
| Entertainment services | 172.0 | 178.1 | 178.0 | 178.0 | 179.1 | 179.5 | 180.3 | 180.5 | 181.3 | 182.1 | 182.7 | 183.3 | 183.5 | 184.5 | 184.5 |
| Other goods and services | 206.9 | 215.4 | 214.6 | 216.3 | 218.3 | 218.8 | 219.2 | 218.7 | 220.0 | 220.7 | 221.4 | 222.7 | 223.1 | 223.1 | 223.5 |
| Tobacco products | 225.7 | 232.8 | 233.3 | 233.4 | 234.1 | 235.3 | 236.2 | 234.3 | 236.4 | 237.4 | 238.2 | 243.2 | 243.8 | 241.3 | 242.0 |
| Personal care | 147.1 | 150.1 | 150.0 | 150.5 | 150.8 | 150.9 | 151.2 | 150.5 | 151.6 | 151.5 | 151.8 | 152.7 | 152.6 | 152.8 | 152.6 |
| Toilet goods and personal care appliances | 143.1 | 144.3 | 144.4 | 145.0 | 145.1 | 144.6 | 144.7 | 142.8 | 143.6 | 143.3 | 143.6 | 144.5 | 144.1 | 144.2 | 143.7 |
| Personal care services | 151.5 | 156.6 | 156.3 | 156.5 | 157.2 | 157.9 | 158.6 | 159.2 | 160.7 | 160.7 | 161.2 | 162.0 | 162.3 | 162.6 | 162.5 |
| Personal and educational expenses | 235.5 | 247.5 | 245.8 | 248.7 | 252.1 | 252.5 | 252.8 | 252.9 | 254.0 | 255.0 | 255.8 | 256.0 | 256.6 | 257.3 | 258.0 |
| School books and supplies | 214.4 | 226.9 | 224.7 | 227.6 | 229.9 | 230.5 | 230.7 | 231.1 | 234.5 | 235.3 | 235.4 | 235.8 | 235.9 | 237.2 | 237.7 |
| Personal and educational services | 237.3 | 249.3 | 247.6 | 250.5 | 254.0 | 254.3 | 254.7 | 254.8 | 255.8 | 256.7 | 257.6 | 257.7 | 258.3 | 259.1 | 259.8 |

## 27. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

| Series | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| All items | 152.4 | 156.9 | 157.0 | 157.3 | 157.8 | 158.3 | 158.6 | 158.6 | 159.1 | 159.6 | 160.0 | 160.2 | 160.1 | 160.3 | 160.5 |
| Commodities | 136.4 | 139.9 | 139.5 | 139.5 | 140.3 | 141.0 | 141.5 | 141.4 | 141.5 | 141.8 | 142.0 | 142.3 | 142.1 | 141.5 | 141.0 |
| Food and beverages | 148.9 | 153.7 | 153.6 | 154.2 | 155.0 | 155.8 | 156.2 | 156.6 | 156.9 | 156.9 | 157.1 | 157.1 | 157.1 | 157.1 | 157.5 |
| Commodities less food and beverages | 128.9 | 131.5 | 130.9 | 130.5 | 131.4 | 132.1 | 132.6 | 132.1 | 132.1 | 132.6 | 132.9 | 133.2 | 132.9 | 132.0 | 131.0 |
| Nondurables less food and beverages | 129.5 | 133.0 | 132.3 | 131.6 | 133.0 | 134.0 | 134.7 | 133.7 | 133.8 | 134.6 | 135.0 | 135.8 | 135.4 | 134.2 | 132.9 |
| Apparel commodities | 128.7 | 128.2 | 124.5 | 124.2 | 127.8 | 130.0 | 129.9 | 126.5 | 125.8 | 128.2 | 131.0 | 132.7 | 131.8 | 128.6 | 126.2 |
| Nondurables less food, beverages, and apparel | 132.9 | 138.6 | 139.3 | 138.5 | 138.7 | 139.2 | 140.3 | 140.5 | 141.0 | 141.0 | 140.2 | 140.6 | 140.4 | 140.1 | 139.3 |
| Durables | 128.0 | 129.4 | 129.1 | 128.9 | 129.2 | 129.3 | 129.6 | 129.9 | 129.7 | 129.8 | 129.9 | 129.6 | 129.4 | 129.0 | 128.3 |
| Services | 168.7 | 174.1 | 174.8 | 175.3 | 175.6 | 175.8 | 175.9 | 176.1 | 177.0 | 177.7 | 178.2 | 178.3 | 178.4 | 179.3 | 180.1 |
| Rent of shelter (12/82 = 100) | 172.4 | 178.0 | 178.9 | 179.3 | 179.0 | 179.4 | 179.4 | 179.3 | 180.6 | 181.6 | 182.3 | 182.4 | 182.4 | 183.1 | 184.1 |
| Household services less rent of shelter (12/82 = 100) | 138.3 | 142.0 | 143.9 | 144.4 | 144.6 | 143.2 | 142.9 | 143.4 | 144.6 | 145.0 | 144.3 | 143.7 | 144.0 | 147.0 | 147.5 |
| Transporation services | 175.9 | 180.5 | 180.3 | 180.6 | 181.6 | 183.2 | 183.7 | 184.1 | 183.5 | 183.4 | 184.9 | 185.4 | 184.9 | 184.5 | 185.0 |
| Medical care services | 224.2 | 232.4 | 232.9 | 233.4 | 233.6 | 234.2 | 234.9 | 235.0 | 236.3 | 237.1 | 237.7 | 238.1 | 238.5 | 238.7 | 239.2 |
| Other services | 193.3 | 201.4 | 200.6 | 201.9 | 203.9 | 204.3 | 204.8 | 205.0 | 205.9 | 206.7 | 207.3 | 207.7 | 208.0 | 208.8 | 209.1 |
| Special indexes: | | | | | | | | | | | | | | | |
| All items less food | 153.1 | 157.5 | 157.7 | 157.9 | 158.4 | 158.8 | 159.0 | 159.0 | 159.6 | 160.2 | 160.6 | 160.8 | 160.7 | 161.0 | 161.1 |
| All items less shelter | 148.6 | 152.8 | 152.8 | 152.9 | 153.8 | 154.2 | 154.6 | 154.7 | 155.0 | 155.3 | 155.6 | 155.8 | 155.7 | 155.7 | 155.9 |
| All items less homeowners' costs (12/82 = 100) | 153.5 | 157.9 | 158.1 | 158.3 | 158.9 | 159.4 | 159.6 | 159.6 | 160.2 | 160.8 | 161.2 | 161.2 | 161.1 | 161.2 | 161.4 |
| All items less medical care | 148.6 | 152.8 | 153.0 | 153.2 | 153.8 | 154.2 | 154.5 | 154.5 | 155.0 | 155.5 | 155.9 | 156.0 | 155.9 | 156.1 | 156.2 |
| Commodities less food | 129.8 | 132.6 | 132.0 | 131.7 | 132.5 | 133.2 | 133.7 | 133.3 | 133.3 | 133.8 | 134.1 | 134.4 | 134.1 | 133.3 | 132.2 |
| Nondurables less food | 130.9 | 134.5 | 133.8 | 133.2 | 134.5 | 135.5 | 136.1 | 135.3 | 135.4 | 136.2 | 136.6 | 137.4 | 137.0 | 135.9 | 134.4 |
| Nondurables less food and apparel | 134.1 | 139.5 | 140.2 | 139.5 | 139.8 | 140.3 | 141.2 | 141.5 | 142.0 | 142.1 | 141.4 | 141.7 | 141.7 | 141.4 | 140.8 |
| Nondurables | 139.3 | 143.5 | 143.1 | 143.1 | 144.1 | 145.1 | 145.6 | 145.3 | 145.5 | 145.9 | 146.2 | 146.6 | 146.4 | 145.8 | 145.0 |
| Services less rent of shelter (12/82 = 100) | 176.8 | 182.5 | 183.1 | 183.7 | 184.6 | 184.6 | 184.8 | 185.2 | 185.9 | 186.4 | 186.7 | 186.8 | 186.9 | 188.1 | 188.9 |
| Services less medical care | 163.5 | 168.7 | 169.4 | 169.9 | 170.2 | 170.4 | 170.4 | 170.6 | 171.5 | 172.2 | 172.7 | 172.8 | 172.8 | 173.8 | 174.8 |
| Energy | 105.2 | 110.1 | 112.5 | 111.6 | 111.7 | 110.5 | 111.1 | 112.2 | 113.3 | 113.1 | 111.2 | 110.0 | 109.9 | 112.3 | 111.8 |
| All items less energy | 158.7 | 163.1 | 163.1 | 163.4 | 164.0 | 164.7 | 164.9 | 164.8 | 165.3 | 165.9 | 166.5 | 166.8 | 166.8 | 166.7 | 167.1 |
| All items less food and energy | 161.2 | 165.6 | 165.5 | 165.8 | 166.4 | 167.0 | 167.2 | 167.0 | 167.5 | 168.3 | 169.0 | 169.4 | 169.3 | 169.2 | 169.4 |
| Commodities less food and energy | 139.3 | 141.3 | 140.3 | 140.3 | 141.4 | 142.0 | 142.2 | 141.5 | 141.5 | 142.2 | 143.0 | 143.5 | 143.3 | 142.2 | 141.2 |
| Energy commodities | 98.8 | 105.7 | 107.2 | 105.0 | 105.2 | 105.8 | 107.9 | 109.1 | 109.2 | 108.6 | 106.6 | 105.8 | 105.3 | 105.2 | 103.8 |
| Services less energy | 173.7 | 179.4 | 179.9 | 180.4 | 180.7 | 181.2 | 181.4 | 181.5 | 182.4 | 183.1 | 183.8 | 184.1 | 184.1 | 184.6 | 185.2 |
| Purchasing power of the consumer dollar: | | | | | | | | | | | | | | | |
| 1982–84 = $1.00 | .656 | .638 | .637 | .636 | .634 | .632 | .631 | .631 | .628 | .626 | .625 | .624 | .625 | .624 | .623 |
| 1967 = $1.00 | .219 | .213 | .213 | .212 | .212 | .211 | .211 | .211 | .210 | .209 | .209 | .208 | .209 | .208 | .207 |
| **CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS** | | | | | | | | | | | | | | | |
| All items | 149.8 | 154.1 | 154.3 | 154.5 | 155.1 | 155.5 | 155.9 | 155.9 | 156.3 | 156.8 | 157.0 | 157.2 | 157.2 | 157.4 | 157.8 |
| All items (1967 = 100) | 446.1 | 459.1 | 459.7 | 460.2 | 461.9 | 463.2 | 464.2 | 464.3 | 465.7 | 467.0 | 467.8 | 468.3 | 468.3 | 468.8 | 469.9 |
| Food and beverages | 148.3 | 153.2 | 153.1 | 153.7 | 154.5 | 155.2 | 155.7 | 156.1 | 156.4 | 156.4 | 156.5 | 156.5 | 156.5 | 156.6 | 157.0 |
| Food | 147.9 | 152.8 | 152.8 | 153.4 | 154.1 | 154.9 | 155.4 | 155.8 | 156.1 | 156.0 | 156.1 | 156.1 | 156.1 | 156.1 | 156.5 |
| Food at home | 147.9 | 153.5 | 153.3 | 154.1 | 155.1 | 155.9 | 156.4 | 156.9 | 157.1 | 156.8 | 156.7 | 156.6 | 156.6 | 156.5 | 156.9 |
| Cereals and bakery products | 167.2 | 173.6 | 174.5 | 174.8 | 174.3 | 174.7 | 175.1 | 175.4 | 176.2 | 176.4 | 176.4 | 176.6 | 176.7 | 177.9 | 177.9 |
| Meats, poultry, fish, and eggs | 138.5 | 144.5 | 143.6 | 145.3 | 146.8 | 147.5 | 148.6 | 149.8 | 149.3 | 148.4 | 147.4 | 147.3 | 147.4 | 147.5 | 148.0 |
| Dairy products | 132.5 | 141.9 | 141.9 | 144.3 | 146.4 | 148.9 | 149.2 | 148.5 | 147.6 | 146.0 | 145.8 | 145.4 | 145.1 | 143.8 | 143.1 |
| Fruits and vegetables | 176.7 | 183.1 | 183.4 | 181.8 | 183.2 | 184.1 | 185.2 | 186.0 | 186.1 | 186.1 | 188.2 | 185.2 | 185.4 | 183.1 | 184.2 |
| Other foods at home | 140.3 | 142.6 | 142.6 | 142.8 | 143.2 | 143.5 | 143.0 | 143.2 | 144.4 | 145.0 | 145.1 | 146.4 | 146.6 | 147.2 | 147.8 |
| Sugar and sweets | 137.5 | 143.6 | 144.6 | 144.5 | 145.3 | 145.6 | 144.0 | 144.5 | 146.8 | 147.2 | 146.2 | 147.9 | 147.9 | 148.1 | 149.0 |
| Fats and oils | 137.1 | 140.3 | 140.2 | 140.6 | 141.2 | 141.3 | 140.5 | 140.4 | 141.9 | 142.3 | 142.2 | 142.1 | 141.7 | 141.3 | 141.8 |
| Nonalcoholic beverages | 131.0 | 128.1 | 127.1 | 128.0 | 127.4 | 127.1 | 126.7 | 126.5 | 127.9 | 128.0 | 128.9 | 131.1 | 132.4 | 133.6 | 134.0 |
| Other prepared foods | 150.8 | 156.0 | 156.6 | 156.3 | 157.2 | 158.2 | 158.2 | 158.8 | 159.3 | 160.4 | 160.1 | 161.0 | 160.3 | 160.9 | 161.2 |
| Food away from home | 148.8 | 152.6 | 152.7 | 153.1 | 153.4 | 154.2 | 154.7 | 155.0 | 155.4 | 155.7 | 156.0 | 156.2 | 156.2 | 156.6 | 157.1 |
| Alcoholic beverages | 153.3 | 157.9 | 157.8 | 158.2 | 158.9 | 159.5 | 159.6 | 159.9 | 160.4 | 161.1 | 161.5 | 161.7 | 162.2 | 162.1 | 162.2 |
| Housing | 145.4 | 149.6 | 150.4 | 150.7 | 150.8 | 150.7 | 150.7 | 151.0 | 151.8 | 152.4 | 152.5 | 152.4 | 152.6 | 153.6 | 154.2 |
| Shelter | 161.2 | 166.2 | 166.9 | 167.3 | 167.2 | 167.6 | 167.7 | 167.7 | 168.6 | 169.4 | 169.9 | 170.1 | 170.3 | 170.9 | 171.8 |
| Renters' costs (12/84 = 100) | 152.5 | 157.3 | 159.1 | 159.4 | 158.1 | 158.3 | 157.6 | 157.3 | 159.4 | 160.9 | 161.9 | 161.8 | 161.6 | 162.6 | 163.2 |
| Rent, residential | 157.4 | 161.6 | 161.9 | 162.2 | 162.6 | 162.9 | 163.4 | 163.7 | 164.1 | 164.4 | 164.7 | 165.2 | 165.6 | 166.0 | 166.8 |
| Other renters' costs | 204.4 | 214.6 | 226.0 | 226.5 | 215.0 | 214.6 | 207.4 | 203.7 | 216.3 | 224.9 | 229.9 | 226.9 | 222.9 | 227.3 | 232.1 |
| Homeowners' costs (12/84 = 100) | 156.0 | 160.9 | 161.0 | 161.4 | 161.9 | 162.4 | 162.8 | 163.0 | 163.3 | 163.7 | 163.9 | 164.3 | 164.6 | 165.1 | 165.8 |
| Owners' equivalent rent (12/84 = 100) | 156.2 | 161.2 | 161.3 | 161.7 | 162.2 | 162.7 | 163.1 | 163.4 | 163.7 | 164.0 | 164.3 | 164.6 | 164.9 | 165.4 | 166.2 |
| Household insurance (12/84 = 100) | 144.6 | 147.1 | 147.8 | 148.0 | 148.0 | 148.7 | 150.0 | 147.2 | 147.4 | 148.5 | 148.1 | 148.5 | 149.1 | 149.8 | 150.6 |
| Maintenance and repairs | 134.5 | 137.6 | 137.9 | 138.0 | 138.0 | 138.5 | 139.9 | 140.1 | 140.0 | 140.7 | 140.9 | 141.0 | 141.7 | 141.7 | 142.1 |
| Maintenance and repair services | 142.7 | 147.6 | 148.2 | 149.0 | 149.4 | 149.5 | 149.9 | 150.1 | 150.0 | 150.3 | 150.3 | 150.9 | 151.9 | 152.0 | 152.5 |
| Maintenance and repair commodities | 123.6 | 124.9 | 124.8 | 124.1 | 123.6 | 124.8 | 127.1 | 127.1 | 127.3 | 128.3 | 128.7 | 128.2 | 128.6 | 128.6 | 128.8 |
| Fuel and other utilities | 123.2 | 127.2 | 128.7 | 129.2 | 129.5 | 128.3 | 128.1 | 129.0 | 130.5 | 130.7 | 129.6 | 128.6 | 128.7 | 131.7 | 131.8 |
| Fuels | 110.8 | 114.7 | 117.0 | 117.5 | 117.9 | 115.6 | 115.1 | 116.5 | 118.5 | 118.5 | 116.5 | 114.7 | 114.7 | 119.2 | 119.4 |
| Fuel oil, coal, and bottled gas | 88.0 | 99.0 | 92.1 | 92.1 | 95.4 | 102.6 | 105.7 | 110.6 | 111.6 | 109.4 | 105.3 | 101.7 | 100.0 | 97.6 | 94.8 |
| Gas (piped) and electricity | 118.4 | 121.6 | 125.1 | 125.7 | 125.7 | 122.2 | 121.2 | 122.3 | 124.5 | 124.8 | 122.9 | 121.2 | 121.5 | 127.0 | 127.8 |
| Other utilities and public services | 153.2 | 157.7 | 158.0 | 158.5 | 158.8 | 159.2 | 159.5 | 159.6 | 160.3 | 160.9 | 161.2 | 161.5 | 161.8 | 162.5 | 163.2 |
| Household furnishings and operations | 121.8 | 123.2 | 123.2 | 123.3 | 123.6 | 123.4 | 123.3 | 123.5 | 123.4 | 123.7 | 123.9 | 124.0 | 124.3 | 124.2 | 124.2 |
| Housefurnishings | 109.9 | 109.9 | 109.8 | 110.0 | 110.1 | 109.7 | 109.5 | 109.8 | 109.5 | 109.8 | 109.8 | 109.7 | 110.2 | 110.0 | 109.8 |
| Housekeeping supplies | 137.3 | 141.5 | 141.6 | 141.8 | 141.8 | 142.1 | 142.4 | 142.0 | 142.8 | 143.1 | 143.5 | 143.9 | 143.7 | 143.4 | 144.0 |
| Housekeeping services | 146.8 | 150.9 | 151.1 | 151.2 | 152.2 | 152.5 | 152.4 | 152.9 | 152.6 | 152.9 | 153.3 | 153.7 | 153.9 | 154.4 | 154.9 |

## 27. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

| Series | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| Apparel and upkeep | 130.9 | 130.9 | 127.9 | 127.5 | 130.6 | 132.4 | 132.4 | 129.3 | 128.7 | 131.1 | 133.8 | 135.5 | 134.7 | 131.8 | 129.8 |
| Apparel commodities | 127.7 | 127.6 | 124.3 | 123.8 | 127.2 | 129.2 | 129.1 | 125.7 | 125.1 | 127.6 | 130.5 | 132.3 | 131.5 | 128.3 | 126.1 |
| Men's and boys' apparel | 125.9 | 127.4 | 124.7 | 125.7 | 127.0 | 129.0 | 130.9 | 127.5 | 127.0 | 127.2 | 128.8 | 131.1 | 131.7 | 128.8 | 128.0 |
| Women's and girls' apparel | 125.4 | 123.6 | 118.1 | 117.4 | 122.2 | 125.4 | 125.0 | 121.7 | 119.9 | 124.8 | 129.2 | 130.7 | 129.0 | 124.8 | 120.6 |
| Infants' and toddlers' apparel | 128.1 | 130.8 | 126.8 | 126.7 | 132.4 | 128.9 | 127.7 | 128.1 | 128.5 | 128.1 | 130.7 | 134.9 | 134.9 | 133.8 | 132.0 |
| Footwear | 126.2 | 127.6 | 126.8 | 126.1 | 127.8 | 129.2 | 128.9 | 127.0 | 126.0 | 127.2 | 127.9 | 130.3 | 130.1 | 127.2 | 126.8 |
| Other apparel commodities | 150.6 | 149.6 | 150.9 | 147.8 | 151.4 | 151.9 | 148.7 | 139.7 | 144.6 | 145.7 | 149.5 | 149.3 | 146.8 | 146.3 | 146.8 |
| Apparel services | 156.8 | 159.0 | 159.3 | 159.6 | 159.7 | 159.7 | 160.0 | 160.5 | 160.8 | 161.3 | 161.5 | 161.7 | 161.9 | 162.2 | 162.6 |
| Transportation | 138.8 | 142.8 | 143.3 | 142.6 | 142.9 | 143.5 | 144.5 | 144.8 | 144.6 | 144.4 | 144.2 | 144.2 | 143.8 | 143.4 | 142.9 |
| Private transportation | 136.9 | 140.7 | 141.1 | 140.5 | 140.7 | 141.2 | 142.2 | 142.4 | 142.4 | 142.4 | 141.9 | 141.8 | 141.5 | 141.1 | 140.4 |
| New vehicles | 141.8 | 144.7 | 144.3 | 144.0 | 144.3 | 145.0 | 146.0 | 146.5 | 146.6 | 146.7 | 146.6 | 146.4 | 145.9 | 145.4 | 144.9 |
| New cars | 138.7 | 141.1 | 140.6 | 140.3 | 140.6 | 141.1 | 141.9 | 142.7 | 142.7 | 142.5 | 142.5 | 142.3 | 141.8 | 141.3 | 140.7 |
| Used cars | 157.3 | 158.2 | 158.1 | 157.8 | 158.2 | 158.3 | 157.7 | 156.8 | 155.9 | 155.7 | 155.7 | 155.7 | 155.3 | 153.3 | 151.4 |
| Motor fuel | 99.9 | 106.3 | 108.8 | 106.3 | 106.2 | 106.0 | 108.1 | 108.9 | 108.8 | 108.2 | 106.3 | 105.9 | 105.7 | 105.9 | 104.0 |
| Gasoline | 99.7 | 105.9 | 108.7 | 106.0 | 105.8 | 105.3 | 107.4 | 108.3 | 108.2 | 107.5 | 105.7 | 105.4 | 105.2 | 105.5 | 103.6 |
| Maintenance and repair | 154.8 | 159.3 | 158.9 | 159.6 | 160.8 | 161.4 | 161.4 | 161.4 | 162.0 | 162.1 | 162.5 | 162.9 | 163.2 | 163.7 | 164.0 |
| Other private transportation | 166.5 | 169.6 | 169.2 | 169.7 | 169.8 | 171.2 | 171.9 | 171.6 | 171.9 | 172.6 | 172.8 | 172.8 | 172.5 | 172.1 | 172.8 |
| Other private transportation commodities | 104.0 | 104.2 | 103.8 | 104.0 | 104.1 | 104.1 | 104.2 | 104.3 | 104.2 | 104.3 | 104.1 | 103.7 | 103.8 | 103.8 | 104.4 |
| Other private transportation services | 182.2 | 186.1 | 185.7 | 186.3 | 186.4 | 188.2 | 189.1 | 188.6 | 189.0 | 190.0 | 190.2 | 190.3 | 189.9 | 189.4 | 190.2 |
| Public transportation | 171.9 | 179.6 | 180.6 | 179.4 | 181.8 | 184.3 | 184.5 | 186.9 | 183.6 | 180.3 | 185.1 | 186.8 | 185.2 | 184.0 | 186.2 |
| Medical care | 219.8 | 227.6 | 228.2 | 228.5 | 228.8 | 229.4 | 229.9 | 230.1 | 231.1 | 232.1 | 232.8 | 233.2 | 233.6 | 233.8 | 234.2 |
| Medical care commodities | 202.2 | 207.8 | 208.5 | 208.5 | 208.5 | 209.8 | 209.1 | 209.4 | 210.1 | 211.4 | 212.1 | 212.3 | 212.9 | 213.4 | 213.3 |
| Medical care services | 223.8 | 232.1 | 232.6 | 233.1 | 233.3 | 233.9 | 234.6 | 234.7 | 235.9 | 236.8 | 237.4 | 237.9 | 238.2 | 238.4 | 238.9 |
| Professional services | 202.0 | 209.5 | 209.9 | 210.4 | 210.8 | 211.4 | 212.1 | 212.3 | 213.3 | 214.3 | 215.4 | 216.0 | 216.5 | 216.8 | 217.2 |
| Hospital and related services | 255.2 | 266.5 | 267.3 | 268.0 | 268.4 | 269.1 | 269.9 | 270.4 | 271.9 | 272.8 | 273.0 | 273.4 | 273.6 | 273.6 | 274.4 |
| Entertainment | 151.8 | 156.8 | 156.7 | 157.0 | 157.4 | 157.8 | 158.3 | 158.4 | 158.8 | 159.2 | 159.6 | 159.7 | 159.7 | 160.1 | 160.1 |
| Entertainment commodities | 137.9 | 142.0 | 141.8 | 142.2 | 142.2 | 142.5 | 142.8 | 142.9 | 142.9 | 143.1 | 143.4 | 143.0 | 142.8 | 142.7 | 142.7 |
| Entertainment services | 171.9 | 178.2 | 178.2 | 178.3 | 179.3 | 179.7 | 180.4 | 180.7 | 181.4 | 182.2 | 182.8 | 183.6 | 183.8 | 185.0 | 184.8 |
| Other goods and services | 204.2 | 212.2 | 211.6 | 213.0 | 214.7 | 215.3 | 215.8 | 215.2 | 216.7 | 217.4 | 218.0 | 219.8 | 220.2 | 219.9 | 220.3 |
| Tobacco products | 225.9 | 232.5 | 233.2 | 233.0 | 233.7 | 234.8 | 235.8 | 233.9 | 236.1 | 237.0 | 237.7 | 242.7 | 243.4 | 240.9 | 241.7 |
| Personal care | 147.3 | 150.1 | 150.0 | 150.4 | 150.8 | 150.9 | 151.3 | 150.4 | 151.6 | 151.4 | 151.6 | 152.6 | 152.6 | 152.7 | 152.4 |
| Toilet goods and personal care appliances | 143.8 | 145.0 | 145.0 | 145.6 | 145.7 | 145.4 | 145.4 | 143.5 | 144.4 | 144.2 | 144.3 | 145.4 | 145.0 | 145.0 | 144.6 |
| Personal care services | 151.5 | 156.6 | 156.2 | 156.5 | 157.2 | 158.0 | 158.7 | 159.4 | 160.8 | 160.8 | 161.2 | 162.1 | 162.4 | 162.7 | 162.6 |
| Personal and educational expenses | 231.2 | 242.9 | 241.4 | 244.2 | 247.3 | 247.7 | 248.1 | 248.3 | 249.7 | 250.8 | 251.6 | 251.8 | 252.5 | 253.1 | 253.6 |
| School books and supplies | 215.5 | 228.2 | 225.5 | 228.8 | 231.5 | 232.4 | 232.6 | 232.9 | 236.2 | 236.9 | 237.1 | 237.4 | 237.5 | 239.6 | 240.1 |
| Personal and educational services | 232.6 | 244.4 | 242.9 | 245.7 | 248.8 | 249.2 | 249.7 | 249.8 | 251.1 | 252.3 | 253.0 | 253.3 | 254.0 | 254.5 | 255.0 |
| All items | 149.8 | 154.1 | 154.3 | 154.5 | 155.1 | 155.5 | 155.9 | 155.9 | 156.3 | 156.8 | 157.0 | 157.2 | 157.2 | 157.4 | 157.5 |
| Commodities | 136.4 | 139.9 | 139.7 | 139.6 | 140.4 | 141.0 | 141.6 | 141.4 | 141.5 | 141.8 | 142.0 | 142.2 | 142.1 | 141.5 | 141.0 |
| Food and beverages | 148.3 | 153.2 | 153.1 | 153.7 | 154.5 | 155.2 | 155.7 | 156.1 | 156.4 | 156.4 | 156.5 | 156.5 | 156.6 | 156.6 | 157.0 |
| Commodities less food and beverages | 129.0 | 131.8 | 131.4 | 130.9 | 131.7 | 132.3 | 132.9 | 132.4 | 132.4 | 132.9 | 133.1 | 133.4 | 133.2 | 132.3 | 131.3 |
| Nondurables less food and beverages | 129.0 | 132.8 | 132.4 | 131.6 | 132.8 | 133.8 | 134.6 | 133.6 | 133.7 | 134.5 | 134.8 | 135.6 | 135.3 | 134.1 | 132.9 |
| Apparel commodities | 127.7 | 127.6 | 124.3 | 123.8 | 127.2 | 129.2 | 129.1 | 125.7 | 125.1 | 127.6 | 130.5 | 132.3 | 131.5 | 128.3 | 126.1 |
| Nondurables less food, beverages, and apparel | 132.6 | 138.3 | 139.2 | 138.2 | 138.4 | 139.0 | 140.2 | 140.4 | 140.9 | 140.8 | 139.9 | 140.3 | 140.2 | 139.9 | 139.1 |
| Durables | 127.9 | 129.2 | 129.0 | 128.9 | 129.2 | 129.2 | 129.5 | 129.6 | 129.5 | 129.5 | 129.6 | 129.3 | 129.2 | 128.6 | 128.0 |
| Services | 166.0 | 171.4 | 172.0 | 172.5 | 172.8 | 173.0 | 173.2 | 173.4 | 174.2 | 174.9 | 175.2 | 175.3 | 175.5 | 176.4 | 177.1 |
| Rent of shelter (12/84 = 100) | 155.0 | 159.9 | 160.6 | 161.0 | 160.9 | 161.3 | 161.3 | 161.4 | 162.3 | 163.0 | 163.5 | 163.7 | 163.9 | 164.5 | 165.3 |
| Household services less rent of shelter (12/84 = 100) | 127.0 | 130.5 | 132.3 | 132.7 | 133.0 | 131.5 | 131.2 | 131.7 | 132.9 | 133.3 | 132.6 | 132.0 | 132.3 | 135.1 | 135.5 |
| Transporatation services | 173.6 | 178.3 | 176.1 | 178.4 | 179.2 | 180.8 | 181.3 | 181.5 | 181.3 | 181.3 | 182.3 | 182.8 | 182.4 | 182.0 | 182.9 |
| Medical care services | 223.8 | 232.1 | 232.6 | 233.1 | 233.3 | 233.9 | 234.6 | 234.7 | 235.9 | 236.8 | 237.4 | 237.9 | 238.2 | 238.4 | 238.9 |
| Other services | 190.1 | 198.1 | 197.4 | 198.7 | 200.5 | 200.9 | 201.5 | 201.7 | 202.7 | 203.5 | 204.1 | 204.6 | 205.0 | 205.7 | 205.9 |
| Special indexes: | | | | | | | | | | | | | | | |
| All items less food | 150.0 | 154.3 | 154.5 | 154.6 | 155.2 | 155.5 | 155.8 | 155.8 | 156.3 | 156.8 | 157.1 | 157.3 | 157.3 | 157.5 | 157.5 |
| All items less shelter | 146.8 | 151.0 | 151.0 | 151.2 | 151.9 | 152.4 | 152.8 | 152.8 | 153.2 | 153.5 | 153.7 | 153.8 | 153.8 | 153.8 | 153.6 |
| All items less homeowners' costs (12/84 = 100) | 140.7 | 144.8 | 145.0 | 145.1 | 145.7 | 146.1 | 146.4 | 146.4 | 146.8 | 147.3 | 147.5 | 147.6 | 147.6 | 147.7 | 147.6 |
| All items less medical care | 146.4 | 150.7 | 150.8 | 151.0 | 151.6 | 152.0 | 152.3 | 152.4 | 152.8 | 153.2 | 153.5 | 153.6 | 153.6 | 153.8 | 153.8 |
| Commodities less food | 130.0 | 132.8 | 132.4 | 132.0 | 132.8 | 133.4 | 134.0 | 133.5 | 133.5 | 134.0 | 134.2 | 134.6 | 134.4 | 133.5 | 132.5 |
| Nondurables less food | 130.4 | 134.3 | 133.8 | 133.1 | 134.3 | 135.3 | 136.0 | 135.2 | 135.3 | 136.0 | 136.4 | 137.1 | 136.9 | 135.8 | 134.7 |
| Nondurables less food and apparel | 133.7 | 139.3 | 140.0 | 139.2 | 139.5 | 140.0 | 141.1 | 141.3 | 141.8 | 141.8 | 141.1 | 141.4 | 141.4 | 141.1 | 140.4 |
| Nondurables | 139.0 | 143.3 | 143.1 | 143.0 | 143.9 | 144.8 | 145.4 | 145.2 | 145.4 | 145.7 | 146.0 | 146.4 | 146.2 | 145.7 | 145.3 |
| Services less rent of shelter (12/84 = 100) | 157.6 | 162.7 | 163.3 | 163.8 | 164.5 | 164.4 | 164.7 | 165.0 | 165.7 | 166.2 | 166.3 | 166.4 | 166.5 | 167.7 | 168.2 |
| Services less medical care | 161.1 | 166.2 | 166.8 | 167.3 | 167.6 | 167.8 | 167.9 | 168.1 | 169.0 | 169.6 | 169.9 | 170.0 | 170.1 | 171.1 | 171.8 |
| Energy | 104.7 | 109.8 | 112.2 | 111.1 | 111.3 | 110.1 | 110.9 | 112.0 | 113.0 | 112.7 | 110.7 | 109.6 | 109.5 | 111.8 | 110.8 |
| All items less energy | 156.1 | 160.4 | 160.3 | 160.6 | 161.2 | 161.9 | 162.2 | 162.1 | 162.5 | 163.0 | 163.5 | 163.9 | 163.9 | 163.8 | 164.0 |
| All items less food and energy | 158.2 | 162.3 | 162.2 | 162.5 | 163.1 | 163.7 | 163.9 | 163.7 | 164.1 | 164.8 | 165.5 | 165.9 | 165.9 | 165.8 | 165.9 |
| Commodities less food and energy | 138.9 | 140.9 | 140.1 | 140.0 | 141.0 | 141.6 | 141.8 | 141.0 | 141.0 | 141.7 | 142.5 | 143.1 | 142.9 | 141.8 | 141.1 |
| Energy commodities | 99.1 | 105.9 | 107.6 | 105.3 | 105.5 | 106.0 | 108.2 | 109.4 | 109.4 | 108.6 | 106.5 | 105.8 | 105.5 | 105.5 | 103.4 |
| Services less energy | 171.3 | 176.8 | 177.2 | 177.7 | 178.0 | 178.6 | 178.9 | 179.0 | 179.8 | 180.4 | 181.0 | 181.3 | 181.4 | 181.9 | 182.8 |
| Purchasing power of the consumer dollar: | | | | | | | | | | | | | | | |
| 1982–84 = $1.00 | .668 | .649 | .648 | .647 | .645 | .643 | .642 | .641 | .640 | .638 | .637 | .636 | .636 | .635 | .635 |
| 1967 = $1.00 | .224 | .218 | .218 | .217 | .216 | .216 | .215 | .215 | .215 | .214 | .214 | .214 | .214 | .213 | .213 |

## 28. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

| Area[1] | Pricing schedule[2] | All Urban Consumers | | | | | | | Urban Wage Earners | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1996 | | 1997 | | | | | 1996 | | 1997 | | | | |
| | | June | July | Mar. | Apr. | May | June | July | June | July | Mar. | Apr. | May | June | July |
| | M | 156.7 | 157.0 | 160.0 | 160.2 | 160.1 | 160.3 | 160.5 | 154.1 | 154.3 | 157.0 | 157.2 | 157.2 | 157.4 | 157.5 |
| **Region and area size[3]** | | | | | | | | | | | | | | | |
| Northeast urban | M | 163.1 | 163.4 | 167.3 | 167.1 | 166.8 | 167.0 | 167.6 | 160.6 | 160.9 | 164.5 | 164.4 | 164.1 | 164.3 | 164.7 |
| Size A—More than 1,200,000 | M | 163.8 | 164.1 | 168.1 | 167.7 | 167.5 | 167.7 | 168.2 | 160.4 | 160.5 | 164.2 | 163.9 | 163.8 | 164.0 | 164.3 |
| Size B—500,000 to 1,200,000 | M | 160.9 | 161.8 | 164.8 | 165.4 | 164.7 | 165.2 | 165.9 | 158.7 | 159.7 | 162.6 | 163.1 | 162.3 | 162.8 | 163.5 |
| Size C—50,000 to 500,000 | M | 161.0 | 161.5 | 165.6 | 165.6 | 165.2 | 165.6 | 166.4 | 162.5 | 162.9 | 167.0 | 167.0 | 166.9 | 167.1 | 167.5 |
| North Central urban | M | 152.9 | 153.2 | 155.9 | 156.1 | 156.3 | 156.7 | 156.6 | 149.5 | 149.8 | 152.4 | 152.6 | 152.8 | 153.1 | 153.1 |
| Size A—More than 1,200,000 | M | 153.5 | 153.7 | 156.6 | 156.9 | 157.0 | 157.3 | 157.3 | 149.6 | 149.7 | 152.3 | 152.6 | 152.7 | 152.9 | 152.9 |
| Size B—360,000 to 1,200,000 | M | 152.0 | 152.4 | 154.6 | 154.8 | 155.4 | 155.7 | 155.8 | 148.0 | 148.3 | 150.5 | 150.8 | 151.5 | 151.7 | 151.9 |
| Size C—50,000 to 360,000 | M | 154.1 | 154.6 | 158.1 | 158.2 | 158.3 | 158.7 | 158.5 | 151.5 | 151.9 | 155.3 | 155.4 | 155.6 | 156.0 | 155.7 |
| Size D—Nonmetropolitan (less than 50,000) | M | 149.8 | 150.4 | 152.1 | 152.1 | 152.2 | 152.6 | 152.6 | 148.0 | 148.5 | 150.1 | 150.0 | 150.2 | 150.8 | 150.7 |
| South urban | M | 154.0 | 154.0 | 156.5 | 156.7 | 156.6 | 157.0 | 157.0 | 152.6 | 152.6 | 154.8 | 155.1 | 155.1 | 155.4 | 155.3 |
| Size A—More than 1,200,000 | M | 153.2 | 153.2 | 155.4 | 155.7 | 155.5 | 155.8 | 155.8 | 151.6 | 151.6 | 153.4 | 153.6 | 153.6 | 153.9 | 153.9 |
| Size B—450,000 to 1,200,000 | M | 156.3 | 156.7 | 159.7 | 159.8 | 159.7 | 160.4 | 160.5 | 152.6 | 152.9 | 155.6 | 155.8 | 155.7 | 156.1 | 156.2 |
| Size C—50,000 to 450,000 | M | 153.8 | 153.7 | 155.7 | 156.0 | 156.1 | 156.4 | 156.0 | 153.7 | 153.6 | 155.5 | 155.8 | 156.0 | 156.2 | 155.7 |
| Size D—Nonmetropolitan (less than 50,000) | M | 153.0 | 152.5 | 156.0 | 156.1 | 156.0 | 156.3 | 156.4 | 153.6 | 152.8 | 156.1 | 156.3 | 156.3 | 156.5 | 156.6 |
| West urban | M | 157.5 | 157.9 | 160.8 | 161.1 | 161.1 | 161.0 | 161.1 | 154.5 | 154.9 | 157.4 | 157.8 | 157.8 | 157.5 | 157.6 |
| Size A—More than 1,250,000 | M | 157.3 | 158.0 | 160.9 | 161.2 | 161.1 | 161.1 | 161.3 | 152.9 | 153.4 | 155.9 | 156.2 | 156.1 | 156.0 | 156.2 |
| Size C—50,000 to 330,000 | M | 162.4 | 162.4 | 166.3 | 166.5 | 166.5 | 166.0 | 166.1 | 159.2 | 159.3 | 163.1 | 163.3 | 163.2 | 162.7 | 162.9 |
| Size classes: | | | | | | | | | | | | | | | |
| A (12/86 = 100) | M | 141.4 | 141.7 | 144.4 | 144.5 | 144.5 | 144.6 | 144.8 | 140.6 | 140.8 | 143.2 | 143.4 | 143.3 | 143.5 | 143.6 |
| B | M | 156.9 | 157.4 | 160.1 | 160.4 | 160.4 | 160.7 | 160.9 | 154.0 | 154.4 | 157.0 | 157.3 | 157.3 | 157.6 | 157.8 |
| C | M | 156.5 | 156.8 | 159.8 | 160.0 | 160.0 | 160.2 | 160.1 | 155.7 | 155.8 | 158.8 | 159.0 | 159.1 | 159.2 | 159.1 |
| D | M | 153.7 | 153.7 | 156.4 | 156.5 | 156.4 | 156.6 | 156.7 | 153.1 | 153.0 | 155.4 | 155.6 | 155.6 | 155.7 | 155.8 |
| **Selected local areas** | | | | | | | | | | | | | | | |
| Chicago, IL–Northwestern IN | M | 157.6 | 157.7 | 161.0 | 160.9 | 161.1 | 161.7 | 161.7 | 152.6 | 152.7 | 155.6 | 155.3 | 155.5 | 156.0 | 156.0 |
| Los Angeles–Long Beach, Anaheim, CA | M | 156.7 | 157.6 | 159.8 | 159.9 | 159.5 | 159.4 | 159.5 | 151.5 | 152.3 | 154.2 | 154.3 | 154.0 | 153.8 | 153.8 |
| New York, NY–Northeastern NJ | M | 166.5 | 166.7 | 170.7 | 170.2 | 169.9 | 170.3 | 170.8 | 162.8 | 162.8 | 166.6 | 166.1 | 166.0 | 166.2 | 166.6 |
| Philadelphia, PA–NJ | M | 162.3 | 162.8 | 166.1 | 166.0 | 166.0 | 166.1 | 166.4 | 161.7 | 162.1 | 165.3 | 165.1 | 165.2 | 165.3 | 165.5 |
| San Francisco–Oakland, CA | M | 155.2 | 155.9 | 159.2 | 159.6 | 159.8 | 160.0 | 160.6 | 152.9 | 153.4 | 156.2 | 156.7 | 156.8 | 157.0 | 157.5 |
| Baltimore, MD | 1 | – | 155.7 | 157.1 | – | 155.5 | – | 156.9 | – | 154.6 | 155.9 | – | 154.3 | – | 155.6 |
| Boston, MA | 1 | – | 162.0 | 168.1 | – | 166.7 | – | 167.1 | – | 160.9 | 166.8 | – | 165.6 | – | 165.8 |
| Cleveland, OH | 1 | – | 152.1 | 155.4 | – | 155.6 | – | 156.3 | – | 144.3 | 147.5 | – | 147.8 | – | 148.2 |
| Miami, FL | 1 | – | 152.4 | 158.5 | – | 157.9 | – | 157.9 | – | 150.8 | 156.2 | – | 155.6 | – | 155.5 |
| St. Louis, MO–IL | 1 | – | 149.9 | 152.2 | – | 152.1 | – | 153.3 | – | 149.0 | 151.1 | – | 151.2 | – | 152.5 |
| Washington, DC–MD–VA | 1 | – | 160.1 | 161.9 | – | 162.1 | – | 162.9 | – | 157.6 | 159.1 | – | 159.7 | – | 160.2 |
| Dallas–Ft Worth, TX | 2 | 149.4 | – | – | 150.6 | – | 151.4 | – | 149.6 | – | – | 150.4 | – | 151.4 | – |
| Detroit, MI | 2 | 151.9 | – | – | 156.0 | – | 155.0 | – | 147.1 | – | – | 151.0 | – | 149.8 | – |
| Houston, TX | 2 | 142.8 | – | – | 145.2 | – | 144.8 | – | 142.2 | – | – | 144.1 | – | 144.1 | – |
| Pittsburgh, PA | 2 | 153.2 | – | – | 156.6 | – | 157.4 | – | 146.9 | – | – | 150.1 | – | 150.8 | – |

[1] Area definitions are those established by the Office of Management and Budget in 1983, except for Boston–Lawrence–Salem, MA–NH, Area (excludes Monroe County); and Milwaukee, WI, Area (includes only the Milwaukee MSA). Definitions do not include revisions made since 1983. Excludes farms and the military.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M—Every month.

1—January, March, May, July, September, and November.

2—February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

## 29. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

| Series | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|
| Consumer Price Index for All Urban Consumers: | | | | | | | | | |
| All items: | | | | | | | | | |
| Index | 118.3 | 124.0 | 130.7 | 136.2 | 140.3 | 144.5 | 148.2 | 152.4 | 156.9 |
| Percent change | 4.1 | 4.8 | 5.4 | 4.2 | 3.0 | 3.0 | 2.6 | 2.8 | 3.0 |
| Food and beverages: | | | | | | | | | |
| Index | 118.2 | 124.9 | 132.1 | 136.8 | 138.7 | 141.6 | 144.9 | 148.9 | 153.7 |
| Percent change | 4.1 | 5.7 | 5.8 | 3.6 | 1.4 | 2.1 | 2.3 | 2.8 | 3.2 |
| Housing: | | | | | | | | | |
| Index | 118.5 | 123.0 | 128.5 | 133.6 | 137.5 | 141.2 | 144.8 | 148.5 | 152.8 |
| Percent change | 3.8 | 3.8 | 4.5 | 4.0 | 2.9 | 2.7 | 2.5 | 2.6 | 2.9 |
| Apparel and upkeep: | | | | | | | | | |
| Index | 115.4 | 118.6 | 124.1 | 128.7 | 131.9 | 133.7 | 133.4 | 132.0 | 131.7 |
| Percent change | 4.3 | 2.8 | 4.6 | 3.7 | 2.5 | 1.4 | –.2 | –1.0 | -.2 |
| Transportation: | | | | | | | | | |
| Index | 108.7 | 114.1 | 120.5 | 123.8 | 126.5 | 130.4 | 134.3 | 139.1 | 143.0 |
| Percent change | 3.1 | 5.0 | 5.6 | 2.7 | 2.2 | 3.1 | 3.0 | 3.6 | 2.8 |
| Medical care: | | | | | | | | | |
| Index | 138.6 | 149.3 | 162.8 | 177.0 | 190.1 | 201.4 | 211.0 | 220.5 | 228.2 |
| Percent change | 6.5 | 7.7 | 9.0 | 8.7 | 7.4 | 5.9 | 4.8 | 4.5 | 3.5 |
| Entertainment: | | | | | | | | | |
| Index | 120.3 | 126.5 | 132.4 | 138.4 | 142.3 | 145.8 | 150.1 | 153.9 | 159.1 |
| Percent change | 4.3 | 5.2 | 4.7 | 4.5 | 2.8 | 2.5 | 2.9 | 2.5 | 3.4 |
| Other goods and services: | | | | | | | | | |
| Index | 137.0 | 147.7 | 159.0 | 171.6 | 183.3 | 192.9 | 198.5 | 206.9 | 215.4 |
| Percent change | 6.6 | 7.8 | 7.7 | 7.9 | 6.8 | 5.2 | 2.9 | 4.2 | 4.1 |
| Consumer Price Index for Urban Wage Earners and Clerical Workers: | | | | | | | | | |
| All items: | | | | | | | | | |
| Index | 117.0 | 122.6 | 129.0 | 134.3 | 138.2 | 142.1 | 145.6 | 149.8 | 154.1 |
| Percent change | 4.0 | 4.8 | 5.2 | 4.1 | 2.9 | 2.8 | 2.5 | 2.9 | 2.9 |

## 30. Producer Price Indexes, by stage of processing

[1982 = 100]

| Grouping | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| **Finished goods** | 127.9 | 131.3 | 131.5 | 131.9 | 131.8 | 132.7 | 132.6 | 132.7 | 132.6 | 132.2 | 132.1 | 131.6 | 131.5 | 131.6 | 131.3 |
| Finished consumer goods | 125.6 | 129.5 | 129.9 | 130.4 | 130.4 | 131.2 | 131.1 | 131.2 | 131.0 | 130.6 | 130.4 | 129.8 | 129.8 | 130.1 | 129.7 |
| Finished consumer foods | 129.0 | 133.5 | 133.9 | 135.3 | 135.6 | 136.6 | 136.1 | 135.5 | 134.1 | 133.8 | 135.2 | 134.3 | 135.0 | 134.0 | 134.0 |
| Finished consumer goods excluding foods | 124.0 | 127.6 | 128.0 | 128.1 | 128.0 | 128.8 | 128.8 | 129.2 | 129.5 | 129.0 | 128.2 | 127.7 | 127.4 | 128.2 | 127.7 |
| Nondurable goods less food | 118.8 | 123.2 | 124.0 | 124.2 | 124.6 | 124.5 | 124.5 | 125.2 | 125.7 | 124.9 | 123.8 | 123.2 | 123.3 | 124.4 | 124.1 |
| Durable goods | 132.7 | 134.2 | 133.8 | 133.7 | 132.4 | 135.2 | 135.2 | 135.0 | 134.9 | 135.0 | 135.0 | 134.5 | 133.6 | 133.5 | 132.5 |
| Capital equipment | 136.7 | 138.3 | 138.1 | 138.2 | 137.3 | 138.9 | 138.7 | 138.7 | 139.0 | 138.9 | 138.8 | 138.6 | 138.1 | 138.1 | 137.9 |
| **Intermediate materials, supplies, and components** | 124.9 | 125.7 | 125.9 | 126.1 | 126.7 | 126.0 | 125.7 | 126.0 | 126.3 | 126.1 | 125.6 | 125.3 | 125.3 | 125.7 | 125.5 |
| Materials and components for manufacturing | 130.4 | 128.6 | 128.3 | 128.3 | 128.6 | 128.3 | 128.0 | 128.2 | 128.4 | 128.4 | 128.6 | 128.4 | 128.4 | 128.3 | 128.3 |
| Materials for food manufacturing | 119.5 | 125.7 | 128.5 | 129.4 | 129.2 | 129.2 | 124.8 | 123.8 | 122.9 | 122.9 | 124.1 | 123.8 | 123.8 | 122.8 | 122.3 |
| Materials for nondurable manufacturing | 135.1 | 130.5 | 129.4 | 129.5 | 130.0 | 129.6 | 129.5 | 129.8 | 130.1 | 129.9 | 129.4 | 129.0 | 129.3 | 129.1 | 129.4 |
| Materials for durable manufacturing | 135.6 | 131.4 | 130.7 | 130.6 | 131.2 | 130.5 | 130.8 | 131.4 | 131.9 | 132.6 | 133.4 | 133.4 | 133.5 | 133.8 | 133.1 |
| Components for manufacturing | 126.5 | 126.8 | 126.7 | 126.8 | 126.8 | 126.6 | 126.6 | 126.7 | 126.8 | 126.8 | 126.7 | 126.6 | 126.4 | 126.4 | 126.5 |
| Materials and components for construction | 142.1 | 143.5 | 143.7 | 144.1 | 144.8 | 144.3 | 144.9 | 144.7 | 145.0 | 145.7 | 146.2 | 146.8 | 147.2 | 147.1 | 147.1 |
| Processed fuels and lubricants | 84.2 | 89.9 | 91.1 | 91.9 | 93.6 | 92.3 | 91.3 | 92.7 | 93.4 | 92.1 | 88.7 | 87.0 | 86.8 | 89.6 | 88.5 |
| Containers | 148.8 | 141.2 | 139.6 | 138.4 | 138.5 | 137.9 | 137.5 | 137.9 | 137.8 | 136.9 | 136.0 | 135.1 | 134.9 | 134.2 | 133.9 |
| Supplies | 132.1 | 135.9 | 136.4 | 136.4 | 136.8 | 135.9 | 135.4 | 135.5 | 135.5 | 135.5 | 135.8 | 136.0 | 136.2 | 135.9 | 135.9 |
| **Crude materials for further processing** | 102.7 | 113.5 | 115.6 | 116.0 | 112.9 | 111.3 | 114.8 | 121.6 | 126.3 | 116.1 | 107.6 | 107.9 | 110.6 | 107.2 | 107.2 |
| Foodstuffs and feedstuffs | 105.8 | 121.5 | 130.9 | 129.5 | 124.9 | 119.6 | 117.7 | 113.6 | 112.2 | 111.0 | 114.1 | 116.7 | 117.4 | 111.5 | 112.1 |
| Crude nonfood materials | 96.8 | 104.0 | 101.2 | 102.8 | 100.8 | 101.8 | 108.7 | 122.5 | 131.0 | 115.2 | 99.4 | 98.1 | 102.1 | 100.5 | 100.0 |
| **Special groupings:** | | | | | | | | | | | | | | | |
| Finished goods, excluding foods | 127.5 | 130.5 | 130.8 | 130.9 | 130.5 | 131.5 | 131.5 | 131.7 | 132.1 | 131.7 | 131.1 | 130.7 | 130.3 | 130.9 | 130.4 |
| Finished energy goods | 78.1 | 83.1 | 84.2 | 84.6 | 85.3 | 84.8 | 84.9 | 85.7 | 86.5 | 85.2 | 83.0 | 81.8 | 82.0 | 83.6 | 83.0 |
| Finished goods less energy | 136.9 | 139.6 | 139.6 | 140.0 | 139.6 | 141.0 | 140.7 | 140.6 | 140.3 | 140.2 | 140.7 | 140.3 | 140.2 | 139.9 | 139.7 |
| Finished consumer goods less energy | 136.9 | 140.1 | 140.2 | 140.7 | 140.5 | 141.8 | 141.5 | 141.4 | 140.8 | 140.7 | 141.4 | 141.0 | 141.0 | 140.6 | 140.4 |
| Finished goods less food and energy | 140.0 | 142.0 | 141.9 | 141.9 | 141.1 | 142.7 | 142.5 | 142.6 | 142.8 | 142.7 | 142.8 | 142.7 | 142.2 | 142.3 | 141.9 |
| Finished consumer goods less food and energy | 141.9 | 144.3 | 144.3 | 144.2 | 143.5 | 145.0 | 144.9 | 145.1 | 145.1 | 145.1 | 145.3 | 145.2 | 144.7 | 144.9 | 144.5 |
| Consumer nondurable goods less food and energy | 148.5 | 151.4 | 151.8 | 151.6 | 151.5 | 152.0 | 151.8 | 152.2 | 152.4 | 152.3 | 152.7 | 153.0 | 152.8 | 153.2 | 153.2 |
| Intermediate materials less foods and feeds | 125.5 | 125.6 | 125.6 | 125.7 | 126.3 | 125.8 | 125.7 | 126.1 | 126.4 | 126.2 | 125.6 | 125.2 | 125.2 | 125.7 | 125.5 |
| Intermediate foods and feeds | 114.8 | 128.4 | 131.9 | 132.7 | 133.5 | 130.7 | 126.2 | 125.6 | 124.6 | 124.8 | 127.2 | 127.5 | 128.3 | 126.5 | 125.2 |
| Intermediate energy goods | 84.1 | 89.7 | 90.9 | 91.7 | 93.3 | 92.1 | 91.0 | 92.4 | 93.2 | 91.8 | 88.5 | 86.7 | 86.7 | 89.3 | 88.2 |
| Intermediate goods less energy | 134.0 | 133.6 | 133.5 | 133.6 | 133.9 | 133.5 | 133.2 | 133.4 | 133.5 | 133.6 | 133.8 | 133.8 | 133.8 | 133.7 | 133.7 |
| Intermediate materials less foods and energy | 135.2 | 134.0 | 133.6 | 133.6 | 133.9 | 133.6 | 133.7 | 133.9 | 134.1 | 134.2 | 134.2 | 134.2 | 134.2 | 134.2 | 134.2 |
| Crude energy materials | 69.4 | 84.4 | 81.8 | 83.8 | 81.0 | 82.7 | 91.9 | 109.6 | 119.4 | 98.0 | 77.1 | 76.4 | 81.4 | 79.0 | 78.7 |
| Crude materials less energy | 123.5 | 130.0 | 135.8 | 134.8 | 131.7 | 127.6 | 126.1 | 123.4 | 123.5 | 123.3 | 125.7 | 126.7 | 127.4 | 123.4 | 123.5 |
| Crude nonfood materials less energy | 173.6 | 155.8 | 152.4 | 152.9 | 153.5 | 152.3 | 151.7 | 152.5 | 156.6 | 158.9 | 159.6 | 156.4 | 157.4 | 158.1 | 157.0 |

## 31. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

| SIC | Industry | Annual average | | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1995 | 1996 | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| – | **Total mining industries** | 71.0 | 84.4 | 81.0 | 82.6 | 81.3 | 83.0 | 90.4 | 104.2 | 111.3 | 95.1 | 78.8 | 77.6 | 81.2 | 79.7 | 79.5 |
| 10 | Metal mining | 101.4 | 92.1 | 89.2 | 87.5 | 86.8 | 86.6 | 88.4 | 87.3 | 89.9 | 88.5 | 90.9 | 87.7 | 87.9 | 90.9 | 86.5 |
| 12 | Coal mining (12/85 = 100) | 91.6 | 91.4 | 90.5 | 92.6 | 90.9 | 90.5 | 91.3 | 90.7 | 92.9 | 91.3 | 92.8 | 95.0 | 91.9 | 93.1 | 90.5 |
| 13 | Oil and gas extraction (12/85 = 100) | 66.6 | 84.8 | 80.7 | 82.7 | 81.3 | 83.7 | 93.4 | 112.1 | 121.1 | 99.6 | 77.3 | 75.5 | 80.9 | 78.5 | 78.9 |
| 14 | Mining and quarrying of nonmetallic minerals, except fuels | 123.8 | 127.1 | 127.2 | 127.2 | 127.5 | 127.3 | 127.3 | 127.1 | 127.6 | 127.7 | 127.7 | 128.1 | 128.3 | 128.8 | 129.1 |
| – | **Total manufacturing industries** | 124.2 | 127.1 | 127.1 | 127.4 | 127.5 | 128.2 | 128.0 | 128.0 | 128.1 | 127.9 | 127.8 | 127.7 | 127.6 | 127.3 | 127.0 |
| 20 | Food and kindred products | 121.7 | 127.1 | 128.3 | 129.7 | 129.7 | 129.8 | 128.5 | 128.2 | 127.4 | 127.1 | 128.1 | 128.3 | 128.8 | 128.4 | 128.0 |
| 21 | Tobacco manufactures | 193.2 | 199.1 | 201.1 | 201.4 | 201.0 | 201.1 | 201.1 | 201.2 | 201.4 | 201.2 | 203.3 | 208.4 | 209.5 | 209.8 | 209.4 |
| 22 | Textile mill products | 116.5 | 118.2 | 118.3 | 118.4 | 118.5 | 118.6 | 118.6 | 118.6 | 118.6 | 118.8 | 118.8 | 118.2 | 118.9 | 118.9 | 118.4 |
| 23 | Apparel and other finished products made from fabrics and similar materials | 120.6 | 122.3 | 122.6 | 122.5 | 123.0 | 123.1 | 122.9 | 123.1 | 122.9 | 122.9 | 123.2 | 122.9 | 123.0 | 123.1 | 123.4 |
| 24 | Lumber and wood products, except furniture | 154.1 | 153.5 | 153.3 | 154.4 | 156.6 | 154.6 | 156.2 | 155.9 | 156.4 | 158.2 | 159.3 | 159.9 | 160.3 | 159.8 | 160.1 |
| 25 | Furniture and fixtures | 133.3 | 136.2 | 136.2 | 136.1 | 136.4 | 137.1 | 137.3 | 137.4 | 137.5 | 137.6 | 137.7 | 138.0 | 138.0 | 137.9 | 138.3 |
| 26 | Paper and allied products | 146.7 | 138.6 | 136.3 | 135.3 | 135.1 | 134.9 | 134.6 | 134.7 | 134.5 | 133.5 | 132.5 | 131.5 | 131.0 | 131.7 | 131.8 |
| 27 | Printing, publishing, and allied industries | 159.0 | 165.6 | 165.2 | 165.5 | 166.1 | 166.4 | 166.7 | 166.9 | 168.0 | 168.1 | 168.0 | 168.5 | 168.4 | 168.3 | 168.6 |
| 28 | Chemicals and allied products | 143.4 | 145.8 | 145.9 | 146.1 | 146.8 | 146.8 | 146.3 | 146.4 | 146.8 | 146.8 | 146.9 | 147.0 | 147.1 | 146.9 | 147.3 |
| 29 | Petroleum refining and related products | 77.2 | 87.4 | 86.3 | 86.9 | 89.9 | 92.0 | 92.5 | 92.5 | 92.9 | 91.2 | 87.3 | 85.8 | 85.5 | 83.7 | 81.5 |
| 30 | Rubber and miscellaneous plastics products | 123.3 | 123.1 | 123.2 | 123.4 | 123.5 | 123.1 | 123.3 | 123.3 | 122.9 | 122.8 | 122.4 | 122.8 | 122.9 | 122.7 | 122.9 |
| 31 | Leather and leather products | 134.1 | 134.7 | 134.1 | 134.2 | 135.3 | 135.1 | 135.2 | 136.0 | 136.8 | 137.3 | 137.2 | 137.4 | 137.2 | 136.9 | 136.9 |
| 32 | Stone, clay, glass, and concrete products | 124.3 | 125.8 | 125.8 | 125.9 | 126.3 | 126.2 | 126.6 | 126.5 | 126.8 | 126.9 | 127.1 | 127.5 | 127.7 | 127.6 | 127.5 |
| 33 | Primary metal industries | 128.2 | 123.7 | 123.2 | 122.8 | 122.7 | 122.7 | 122.6 | 123.0 | 123.6 | 124.0 | 124.8 | 125.0 | 125.1 | 125.5 | 125.0 |
| 34 | Fabricated metal products, except machinery and transportation transportation equipment | 124.8 | 126.2 | 126.2 | 126.4 | 126.4 | 126.5 | 126.5 | 126.6 | 126.8 | 127.0 | 127.1 | 127.2 | 127.4 | 127.5 | 127.7 |
| 35 | Machinery, except electrical | 119.0 | 119.2 | 119.1 | 119.1 | 119.1 | 118.9 | 118.9 | 118.7 | 119.1 | 119.0 | 119.1 | 119.1 | 118.7 | 118.6 | 118.1 |
| 36 | Electrical and electronic machinery, equipment, and supplies | 113.3 | 113.2 | 113.0 | 113.1 | 113.0 | 112.7 | 112.8 | 112.7 | 112.5 | 112.2 | 112.2 | 112.0 | 111.7 | 112.0 | 111.7 |
| 37 | Transportation | 132.2 | 134.2 | 133.8 | 133.8 | 132.1 | 135.4 | 135.2 | 135.1 | 135.4 | 135.4 | 135.3 | 134.8 | 134.0 | 133.8 | 133.0 |
| 38 | Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks | 124.0 | 125.0 | 125.2 | 125.0 | 125.0 | 125.1 | 124.7 | 125.2 | 125.5 | 125.4 | 125.5 | 125.7 | 125.4 | 125.2 | 125.8 |
| 39 | Miscellaneous manufacturing industries (12/85 = 100) | 125.9 | 127.8 | 127.9 | 128.0 | 128.1 | 128.3 | 128.3 | 128.3 | 128.6 | 128.7 | 128.9 | 129.1 | 128.8 | 128.9 | 129.0 |
| | **Service industries:** | | | | | | | | | | | | | | | |
| 42 | Motor freight transportation and warehousing (06/93 = 100) | 104.5 | 106.3 | 106.2 | 106.4 | 106.6 | 106.9 | 107.1 | 107.2 | 108.0 | 108.5 | 108.6 | 108.8 | 108.6 | 109.0 | 109.2 |
| 43 | U.S. Postal Service (06/89 = 100) | 132.2 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 | 132.3 |
| 44 | Water transportation (12/92 = 100) | 103.0 | 103.7 | 103.0 | 103.0 | 103.8 | 104.6 | 104.5 | 104.2 | 104.1 | 104.2 | 104.1 | 104.2 | 104.6 | 104.5 | 105.9 |
| 45 | Transportation by air (12/92 = 100) | 113.7 | 121.1 | 122.5 | 121.8 | 121.9 | 122.4 | 123.5 | 122.7 | 128.8 | 128.9 | 124.6 | 125.1 | 125.8 | 126.4 | 126.3 |
| 46 | Pipelines, except natural gas (12/92 = 100) | 110.8 | 104.6 | 104.0 | 104.0 | 101.0 | 100.9 | 100.9 | 100.9 | 98.8 | 98.8 | 98.8 | 98.8 | 98.9 | 98.9 | 98.7 |

## 32. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

| Index | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|
| **Finished goods** | | | | | | | | | |
| Total | 108.0 | 113.6 | 119.2 | 121.7 | 123.2 | 124.7 | 125.5 | 127.9 | 131.3 |
| Foods | 112.6 | 118.7 | 124.4 | 124.1 | 123.3 | 125.7 | 126.8 | 129.0 | 133.5 |
| Energy | 59.8 | 65.7 | 75.0 | 78.1 | 77.8 | 78.0 | 77.0 | 78.1 | 83.1 |
| Other | 117.0 | 122.1 | 126.6 | 131.1 | 134.2 | 135.8 | 137.1 | 140.0 | 142.0 |
| **Intermediate materials, supplies, and components** | | | | | | | | | |
| Total | 107.1 | 112.0 | 114.5 | 114.4 | 114.7 | 116.2 | 118.5 | 124.9 | 125.7 |
| Foods | 106.0 | 112.7 | 117.9 | 115.3 | 113.9 | 115.6 | 118.5 | 119.5 | 125.7 |
| Energy | 70.9 | 76.1 | 85.5 | 85.1 | 84.3 | 84.6 | 83.0 | 84.1 | 89.7 |
| Other | 115.2 | 120.2 | 120.9 | 121.4 | 122.0 | 123.8 | 127.1 | 135.2 | 134.0 |
| **Crude materials for further processing** | | | | | | | | | |
| Total | 96.0 | 103.1 | 108.9 | 101.2 | 100.4 | 102.4 | 101.8 | 102.7 | 113.5 |
| Foods | 106.1 | 111.2 | 113.1 | 105.5 | 105.1 | 108.4 | 106.5 | 105.8 | 121.5 |
| Energy | 67.7 | 75.9 | 85.9 | 80.4 | 78.8 | 76.7 | 72.1 | 69.4 | 84.4 |
| Other | 85.9 | 95.8 | 107.3 | 97.5 | 94.2 | 94.1 | 97.0 | 105.8 | 105.7 |

## 33. U.S. export price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

| SITC Rev. 3 | Industry | 1996 | | | | | 1997 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. |
| 0 | **Food and live animals** | 118.7 | 107.3 | 105.6 | 103.2 | 101.9 | 100.7 | 102.3 | 103.4 | 103.1 | 101.2 | 98.5 | 97.6 | 99.7 |
| 01 | Meat and meat preparations | 100.9 | 98.5 | 98.9 | 98.3 | 97.8 | 95.4 | 94.5 | 96.4 | 96.7 | 95.7 | 95.3 | 95.7 | 96.2 |
| 04 | Cereals and cereal preparations | 136.7 | 109.3 | 104.6 | 101.5 | 100.5 | 98.7 | 102.8 | 104.9 | 104.5 | 99.7 | 92.3 | 89.9 | 93.2 |
| 05 | Vegetables, fruit, and nuts, prepared fresh or dry | 105.6 | 106.8 | 109.0 | 106.2 | 101.0 | 101.4 | 101.9 | 101.2 | 100.1 | 100.7 | 101.6 | 103.5 | 103.2 |
| 2 | **Crude materials, inedible, except fuels** | 89.7 | 90.8 | 89.5 | 88.7 | 88.7 | 90.0 | 92.2 | 93.2 | 92.6 | 93.0 | 93.5 | 93.7 | 93.1 |
| 21 | Hides, skins, and furskins, raw | 105.1 | 109.4 | 117.5 | 116.4 | 113.7 | 113.4 | 114.7 | 115.6 | 113.8 | 110.0 | 100.8 | 96.0 | 98.3 |
| 22 | Oilseeds and oleaginous fruits | 132.4 | 131.7 | 113.9 | 115.6 | 114.9 | 120.1 | 126.7 | 133.1 | 134.0 | 136.1 | 134.6 | 128.6 | 120.5 |
| 24 | Cork and wood | 94.6 | 96.3 | 96.7 | 97.1 | 97.6 | 97.9 | 98.3 | 96.0 | 94.2 | 94.2 | 94.0 | 93.6 | 93.6 |
| 25 | Pulp and waste paper | 57.4 | 58.1 | 58.9 | 58.0 | 55.9 | 55.9 | 59.4 | 58.6 | 58.9 | 60.5 | 65.9 | 69.1 | 71.6 |
| 26 | Textile fibers and their waste | 84.8 | 86.7 | 85.5 | 82.6 | 83.5 | 83.3 | 83.2 | 85.2 | 83.5 | 83.3 | 83.4 | 84.2 | 84.4 |
| 27 | Crude fertilizers and crude minerals | 96.8 | 96.6 | 97.0 | 97.2 | 97.2 | 97.8 | 97.6 | 96.9 | 96.9 | 97.3 | 97.8 | 97.9 | 97.9 |
| 28 | Metalliferous ores and metal scrap | 84.4 | 85.6 | 86.5 | 84.0 | 85.7 | 86.9 | 88.8 | 89.7 | 89.4 | 89.6 | 91.7 | 96.0 | 96.6 |
| 3 | **Mineral fuels, lubricants, and related products** | 109.1 | 112.5 | 116.4 | 115.7 | 116.8 | 116.5 | 112.3 | 111.4 | 110.7 | 110.7 | 110.9 | 111.4 | 111.6 |
| 32 | Coal, coke, and briquettes | 101.6 | 101.5 | 101.5 | 101.7 | 101.8 | 102.6 | 102.2 | 102.2 | 102.5 | 102.4 | 102.0 | 101.7 | 101.7 |
| 33 | Petroleum, petroleum products, and related materials | 114.6 | 121.0 | 128.1 | 126.5 | 128.5 | 127.0 | 121.4 | 119.5 | 119.9 | 120.0 | 119.4 | 120.9 | 121.1 |
| 4 | **Animal and vegetable oils, fats, and waxes** | 96.3 | 101.7 | 97.3 | 90.0 | 93.0 | 96.1 | 97.6 | 96.5 | 93.4 | 93.6 | 94.7 | 93.3 | 93.3 |
| 5 | **Chemicals and related products, n.e.s.** | 96.5 | 96.3 | 96.4 | 95.9 | 96.1 | 96.2 | 96.4 | 96.8 | 96.6 | 96.7 | 96.5 | 96.5 | 95.8 |
| 54 | Medicinal and pharmaceutical products | 101.8 | 101.9 | 101.7 | 101.8 | 101.8 | 101.4 | 101.2 | 100.9 | 101.6 | 101.5 | 101.5 | 101.1 | 101.1 |
| 55 | Essential oils; polishing and cleaning preparations | 101.0 | 101.7 | 101.7 | 101.5 | 101.5 | 101.4 | 102.5 | 102.2 | 102.2 | 102.8 | 102.9 | 103.1 | 102.6 |
| 57 | Plastics in primary forms (12/92 = 100) | 96.5 | 96.1 | 95.6 | 93.1 | 93.8 | 94.8 | 95.8 | 97.8 | 97.8 | 97.6 | 97.1 | 96.1 | 94.4 |
| 58 | Plastics in nonprimary forms (12/92 = 100) | 99.3 | 98.0 | 97.7 | 97.3 | 97.4 | 99.1 | 98.4 | 98.7 | 98.5 | 99.3 | 99.1 | 99.0 | 99.0 |
| 59 | Chemical materials and products, n.e.s. | 102.9 | 102.8 | 103.0 | 103.1 | 103.1 | 103.0 | 103.1 | 103.5 | 104.0 | 104.2 | 104.0 | 104.0 | 104.0 |
| 6 | **Manufactured goods classified chiefly by materials** | 96.8 | 97.1 | 96.7 | 96.6 | 97.0 | 97.1 | 97.5 | 97.5 | 97.8 | 97.7 | 98.2 | 98.2 | 98.6 |
| 62 | Rubber manufactures, n.e.s. | 102.4 | 102.7 | 102.8 | 102.9 | 103.0 | 102.9 | 102.6 | 102.7 | 103.0 | 103.1 | 103.2 | 103.1 | 102.7 |
| 64 | Paper, paperboard, and articles of paper, pulp, and paperboard | 86.9 | 87.5 | 85.9 | 85.6 | 84.9 | 83.6 | 83.2 | 83.1 | 82.3 | 82.9 | 83.5 | 84.4 | 85.3 |
| 66 | Nonmetallic mineral manufactures, n.e.s. | 102.7 | 102.2 | 103.2 | 104.2 | 103.9 | 104.0 | 104.1 | 104.0 | 104.0 | 104.1 | 104.3 | 104.5 | 104.6 |
| 68 | Nonferrous metals | 87.6 | 88.7 | 87.2 | 85.2 | 88.3 | 89.9 | 92.4 | 91.7 | 92.0 | 91.7 | 93.1 | 92.4 | 93.4 |
| 7 | **Machinery and transport equipment** | 100.5 | 100.5 | 100.5 | 100.5 | 100.5 | 100.6 | 100.5 | 100.5 | 100.6 | 100.4 | 100.6 | 100.5 | 100.6 |
| 71 | Power generating machinery and equipment | 104.2 | 104.3 | 104.1 | 104.2 | 104.6 | 105.1 | 105.2 | 105.6 | 105.9 | 106.0 | 106.0 | 105.9 | 106.4 |
| 72 | Machinery specialized for particular industries | 103.0 | 103.1 | 103.1 | 102.8 | 102.9 | 103.7 | 103.8 | 103.7 | 103.8 | 104.3 | 104.2 | 104.1 | 104.4 |
| 74 | General industrial machines and parts, n.e.s., and machine parts | 102.7 | 102.7 | 103.0 | 103.3 | 103.1 | 103.4 | 103.8 | 104.1 | 104.6 | 104.7 | 105.2 | 105.1 | 105.3 |
| 75 | Computer equipment and office machines | 91.5 | 90.4 | 89.9 | 89.2 | 87.9 | 87.7 | 86.9 | 86.7 | 86.3 | 85.1 | 84.6 | 83.9 | 83.9 |
| 76 | Telecommunications and sound recording and reproducing apparatus and equipment | 100.2 | 100.2 | 100.3 | 100.4 | 100.7 | 100.8 | 100.2 | 99.9 | 99.9 | 99.6 | 99.6 | 99.6 | 99.6 |
| 77 | Electrical machinery and equipment | 97.9 | 97.9 | 97.5 | 97.4 | 97.5 | 97.0 | 96.9 | 96.7 | 96.9 | 96.8 | 96.5 | 96.5 | 96.5 |
| 78 | Road vehicles | 101.0 | 101.0 | 101.2 | 101.4 | 101.4 | 101.6 | 101.5 | 101.8 | 101.9 | 101.7 | 101.8 | 102.0 | 101.9 |
| 87 | **Professional, scientific, and controlling instruments and apparatus** | 102.0 | 101.9 | 101.9 | 102.2 | 102.7 | 103.4 | 103.7 | 103.8 | 103.1 | 103.3 | 103.4 | 103.4 | 103.5 |

## 34. U.S. import price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

| SITC Rev. 3 | Industry | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| 0 | **Food and live animals** | 94.1 | 93.9 | 96.6 | 97.4 | 96.5 | 94.6 | 94.6 | 97.2 | 101.8 | 99.5 | 102.1 | 103.7 | 100.4 |
| 01 | Meat and meat preparations | 91.0 | 100.2 | 100.8 | 102.6 | 102.3 | 98.9 | 97.7 | 97.9 | 103.5 | 104.7 | 103.5 | 101.9 | 101.9 |
| 03 | Fish and crustaceans, mollusks, and other aquatic invertebrates | 95.6 | 96.5 | 97.0 | 97.0 | 97.1 | 98.2 | 98.4 | 100.1 | 99.7 | 100.4 | 102.1 | 103.6 | 104.4 |
| 05 | Vegetables, fruit, and nuts, prepared fresh or dry | 99.7 | 98.4 | 106.5 | 109.8 | 106.8 | 101.8 | 101.6 | 104.1 | 111.1 | 101.5 | 101.0 | 101.7 | 101.2 |
| 07 | Coffee, tea, cocoa, spices, and manufactures thereof | 81.7 | 77.0 | 78.9 | 77.4 | 77.2 | 75.0 | 77.7 | 85.8 | 98.6 | 98.1 | 107.8 | 118.4 | 99.5 |
| 1 | **Beverages and tobacco** | 104.1 | 104.4 | 104.9 | 104.9 | 105.0 | 105.2 | 105.6 | 106.7 | 106.9 | 107.2 | 107.0 | 107.5 | 107.7 |
| 11 | Beverages | 101.5 | 102.0 | 102.4 | 102.5 | 102.6 | 102.9 | 102.9 | 103.0 | 103.3 | 103.6 | 103.5 | 104.0 | 104.2 |
| 2 | **Crude materials, inedible, except fuels** | 92.8 | 93.7 | 97.0 | 95.4 | 96.4 | 96.3 | 97.0 | 102.1 | 99.0 | 97.6 | 99.8 | 97.4 | 97.4 |
| 23 | Crude rubber (including synthetic and reclaimed) | 88.8 | 85.5 | 85.6 | 83.5 | 85.5 | 88.2 | 87.4 | 88.1 | 88.3 | 84.8 | 82.1 | 83.9 | 78.3 |
| 24 | Cork and wood | 111.3 | 120.6 | 126.0 | 118.8 | 125.7 | 120.6 | 121.4 | 125.4 | 126.2 | 124.9 | 126.9 | 122.5 | 123.3 |
| 25 | Pulp and waste paper | 66.1 | 64.5 | 66.6 | 67.7 | 67.8 | 66.2 | 65.7 | 65.7 | 64.9 | 63.8 | 64.4 | 65.8 | 66.5 |
| 28 | Metalliferous ores and metal scrap | 95.8 | 95.2 | 97.4 | 97.2 | 95.9 | 97.5 | 99.8 | 102.6 | 103.0 | 106.0 | 105.6 | 105.8 | 104.8 |
| 29 | Crude animal and vegetable materials, n.e.s. | – | – | – | – | – | 100.0 | 105.3 | 148.2 | 105.2 | 94.3 | 118.1 | 97.3 | 102.1 |
| 3 | **Mineral fuels, lubricants, and related products** | 112.5 | 115.1 | 123.4 | 131.8 | 131.8 | 135.5 | 138.9 | 128.0 | 113.9 | 105.3 | 106.6 | 104.6 | 104.0 |
| 33 | Petroleum, petroleum products, and related materials | 113.1 | 115.6 | 124.3 | 132.9 | 131.6 | 133.9 | 134.6 | 123.8 | 113.1 | 104.8 | 106.4 | 104.0 | 102.6 |
| 34 | Gas, natural and manufactured | 107.7 | 111.6 | 115.7 | 123.5 | 136.5 | 157.5 | 184.4 | 170.7 | 125.9 | 113.7 | 112.0 | 113.3 | 119.8 |
| 5 | **Chemicals and related products, n.e.s.** | 98.8 | 98.8 | 99.0 | 99.1 | 99.1 | 99.1 | 98.6 | 97.9 | 97.8 | 96.6 | 96.5 | 96.4 | 96.2 |
| 52 | Inorganic chemicals | 100.4 | 100.3 | 100.4 | 103.4 | 102.1 | 103.5 | 103.2 | 102.7 | 101.5 | 101.1 | 100.8 | 99.0 | 97.9 |
| 53 | Dying, tanning, and coloring materials | 101.7 | 102.2 | 102.6 | 101.3 | 100.6 | 100.4 | 99.4 | 97.4 | 96.9 | 97.1 | 97.1 | 97.9 | 97.7 |
| 54 | Medicinal and pharmaceutical products | 99.4 | 99.9 | 101.3 | 100.1 | 99.9 | 99.0 | 97.8 | 96.6 | 96.0 | 96.0 | 95.4 | 96.3 | 96.5 |
| 55 | Essential oils; polishing and cleaning preparations | 100.7 | 101.3 | 100.2 | 101.3 | 100.7 | 100.1 | 99.4 | 98.7 | 98.2 | 98.8 | 98.7 | 97.0 | 96.9 |
| 57 | Plastics in primary forms (12/92 = 100) | 95.9 | 92.3 | 93.5 | 93.4 | 95.7 | 95.0 | 94.5 | 92.4 | 91.6 | 89.6 | 90.9 | 91.6 | 91.6 |
| 58 | Plastics in nonprimary forms (12/92 = 100) | 86.5 | 88.0 | 86.7 | 87.2 | 86.0 | 86.7 | 85.7 | 85.7 | 86.1 | 86.2 | 85.8 | 88.6 | 88.8 |
| 59 | Chemical materials and products, n.e.s. | 106.7 | 106.2 | 108.0 | 107.6 | 107.3 | 105.8 | 105.5 | 104.7 | 104.6 | 104.2 | 104.2 | 103.5 | 103.2 |
| 6 | **Manufactured goods classified chiefly by materials** | 98.1 | 97.4 | 97.0 | 96.0 | 95.4 | 95.5 | 95.3 | 95.4 | 96.0 | 95.9 | 96.4 | 96.8 | 96.6 |
| 62 | Rubber manufactures, n.e.s. | 99.6 | 99.5 | 99.6 | 99.3 | 98.6 | 98.5 | 98.4 | 97.9 | 97.4 | 97.5 | 97.4 | 97.6 | 96.7 |
| 64 | Paper, paperboard, and articles of paper, pulp, and paperboard | 98.6 | 96.4 | 93.1 | 89.5 | 87.5 | 86.2 | 84.2 | 83.8 | 85.0 | 85.6 | 87.9 | 87.5 | 87.6 |
| 66 | Nonmetallic mineral manufactures, n.e.s. | 101.5 | 101.7 | 102.3 | 102.2 | 102.7 | 103.0 | 103.5 | 103.6 | 103.2 | 102.8 | 103.2 | 102.6 | 103.0 |
| 68 | Nonferrous metals | 89.5 | 87.0 | 86.7 | 85.0 | 83.8 | 84.6 | 86.1 | 87.7 | 91.1 | 90.6 | 91.8 | 95.1 | 94.1 |
| 69 | Manufactures of metals, n.e.s. | 100.9 | 101.2 | 101.1 | 100.9 | 100.8 | 101.0 | 100.3 | 99.9 | 99.5 | 99.0 | 98.9 | 99.0 | 98.8 |
| 7 | **Machinery and transport equipment** | 98.5 | 98.3 | 98.6 | 98.4 | 98.1 | 98.1 | 97.1 | 96.8 | 96.5 | 96.0 | 95.5 | 95.6 | 95.4 |
| 72 | Machinery specialized for particular industries | 100.8 | 101.0 | 101.3 | 101.2 | 101.0 | 101.5 | 101.1 | 100.6 | 99.7 | 99.2 | 98.9 | 99.3 | 99.3 |
| 74 | General industrial machines and parts, n.e.s., and machine parts | 100.7 | 100.7 | 101.4 | 101.2 | 100.7 | 100.7 | 100.6 | 99.6 | 98.5 | 98.1 | 97.9 | 98.3 | 98.2 |
| 75 | Computer equipment and office machines | 91.4 | 90.7 | 89.9 | 89.4 | 88.7 | 88.2 | 86.6 | 85.6 | 84.4 | 83.2 | 81.9 | 81.2 | 80.1 |
| 76 | Telecommunications and sound recording and reproducing apparatus and equipment | 97.0 | 96.6 | 96.5 | 96.3 | 96.0 | 95.8 | 94.7 | 94.7 | 94.4 | 93.7 | 93.1 | 93.4 | 93.3 |
| 77 | Electrical machinery and equipment | 95.0 | 94.1 | 94.9 | 94.2 | 93.3 | 92.7 | 90.3 | 90.2 | 90.8 | 90.1 | 89.8 | 90.2 | 89.7 |
| 78 | Road vehicles | 100.6 | 100.7 | 101.0 | 100.9 | 100.7 | 100.8 | 100.7 | 100.6 | 100.8 | 100.6 | 100.4 | 100.8 | 100.9 |
| 85 | Footwear | 100.4 | 100.9 | 101.0 | 100.8 | 100.7 | 100.9 | 101.4 | 101.7 | 101.0 | 101.0 | 100.9 | 101.1 | 101.2 |
| 88 | Photographic apparatus, equipment, and supplies, and optical goods, n.e.s. | 97.1 | 97.5 | 97.8 | 97.6 | 97.1 | 96.9 | 96.5 | 96.0 | 95.3 | 95.6 | 94.3 | 94.4 | 95.1 |

## 35. U.S. export price indexes by end-use category

[1995 = 100]

| Category | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| ALL COMMODITIES | 100.9 | 100.7 | 99.9 | 99.7 | 99.3 | 99.3 | 99.4 | 99.6 | 99.7 | 99.7 | 99.4 | 99.3 | 99.2 |
| Foods, feeds, and beverages | 119.7 | 119.2 | 109.2 | 105.9 | 103.9 | 102.7 | 102.4 | 104.3 | 106.1 | 105.8 | 104.6 | 102.3 | 101.0 |
| Agricultural foods, feeds, and beverages | 122.8 | 122.0 | 110.9 | 107.2 | 104.7 | 103.4 | 103.1 | 105.6 | 107.6 | 107.4 | 106.3 | 103.8 | 102.2 |
| Nonagricultural (fish, beverages) food products | 94.2 | 95.8 | 94.4 | 95.2 | 97.5 | 97.4 | 96.2 | 91.4 | 90.7 | 89.4 | 88.0 | 87.6 | 89.0 |
| Industrial supplies and materials | 94.8 | 94.5 | 95.1 | 95.3 | 94.8 | 95.0 | 95.2 | 95.3 | 95.3 | 95.3 | 95.2 | 95.5 | 95.8 |
| Agricultural industrial supplies and materials | 91.9 | 93.5 | 95.1 | 95.7 | 93.3 | 93.8 | 95.9 | 95.8 | 95.9 | 94.1 | 92.6 | 91.6 | 92.2 |
| Fuels and lubricants | 108.7 | 109.0 | 111.3 | 114.0 | 114.2 | 114.8 | 114.7 | 111.4 | 110.7 | 110.2 | 110.0 | 110.0 | 110.4 |
| Nonagricultural supplies and materials, excluding fuel and building materials | 93.1 | 92.2 | 92.4 | 92.2 | 91.6 | 91.8 | 91.8 | 92.3 | 92.5 | 92.8 | 92.8 | 93.3 | 93.5 |
| Selected building materials | 94.8 | 95.6 | 96.7 | 97.1 | 97.7 | 97.9 | 98.2 | 98.6 | 97.1 | 95.5 | 95.4 | 95.4 | 95.4 |
| Capital goods | 100.7 | 100.6 | 100.6 | 100.5 | 100.5 | 100.5 | 100.6 | 100.4 | 100.4 | 100.3 | 100.1 | 100.1 | 100.0 |
| Electric and electrical generating equipment | 100.9 | 100.7 | 100.7 | 100.6 | 100.5 | 100.6 | 100.6 | 100.3 | 100.5 | 100.7 | 100.6 | 101.1 | 101.2 |
| Nonelectrical machinery | 99.3 | 99.2 | 99.0 | 98.9 | 98.7 | 98.6 | 98.5 | 98.4 | 98.3 | 98.2 | 97.9 | 97.7 | 97.4 |
| Automotive vehicles, parts, and engines | 101.0 | 101.2 | 101.1 | 101.3 | 101.5 | 101.5 | 101.7 | 101.7 | 101.9 | 102.2 | 102.1 | 102.1 | 102.3 |
| Consumer goods, excluding automotive | 101.3 | 101.4 | 101.6 | 101.6 | 101.6 | 101.8 | 101.9 | 102.0 | 101.7 | 101.8 | 101.9 | 102.0 | 102.1 |
| Nondurables, manufactured | 101.4 | 101.4 | 101.5 | 101.5 | 101.4 | 101.6 | 101.6 | 101.6 | 101.4 | 101.1 | 101.2 | 101.5 | 101.7 |
| Durables, manufactured | 101.0 | 101.2 | 101.5 | 101.3 | 101.3 | 101.3 | 101.6 | 101.7 | 101.4 | 102.0 | 102.1 | 102.0 | 102.0 |
| Agricultural commodities | 116.0 | 115.8 | 107.4 | 104.6 | 102.2 | 101.3 | 101.4 | 103.5 | 105.1 | 104.7 | 103.4 | 101.3 | 100.0 |
| Nonagricultural commodities | 99.0 | 98.8 | 99.0 | 99.0 | 99.0 | 99.1 | 99.1 | 99.1 | 99.0 | 99.0 | 99.0 | 99.1 | 99.1 |

## 36. U.S. import price indexes by end-use category

[1995 = 100]

| Category | 1996 | | | | | | 1997 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July |
| ALL COMMODITIES | 100.0 | 100.1 | 101.3 | 101.8 | 101.6 | 101.9 | 101.6 | 100.7 | 99.4 | 98.3 | 98.3 | 98.2 | 97.9 |
| Foods, feeds, and beverages | 97.2 | 96.4 | 98.2 | 98.4 | 97.9 | 96.8 | 96.7 | 98.5 | 101.4 | 99.6 | 100.8 | 101.9 | 99.3 |
| Agricultural foods, feeds, and beverages | 97.1 | 95.6 | 98.1 | 98.3 | 97.6 | 95.7 | 95.7 | 97.8 | 101.8 | 99.0 | 100.3 | 101.3 | 97.4 |
| Nonagricultural (fish, beverages) food products | 97.2 | 98.1 | 98.4 | 98.5 | 98.6 | 99.5 | 99.0 | 100.1 | 100.1 | 100.9 | 101.8 | 103.1 | 104.2 |
| Industrial supplies and materials | 102.6 | 103.4 | 106.5 | 109.0 | 108.8 | 110.1 | 111.0 | 107.7 | 103.4 | 100.4 | 101.0 | 100.4 | 100.0 |
| Fuels and lubricants | 113.0 | 115.6 | 123.5 | 131.7 | 131.6 | 135.4 | 138.8 | 128.1 | 114.3 | 105.8 | 106.8 | 105.0 | 104.2 |
| Petroleum and petroleum products | 113.2 | 115.7 | 124.4 | 133.2 | 132.1 | 134.7 | 135.5 | 124.5 | 113.7 | 105.3 | 106.6 | 104.5 | 102.7 |
| Paper and paper base stocks | 90.3 | 88.1 | 86.3 | 83.8 | 82.4 | 80.9 | 79.5 | 79.0 | 79.8 | 80.1 | 82.0 | 81.9 | 82.1 |
| Materials associated with nondurable supplies and materials | 97.7 | 97.7 | 97.4 | 97.6 | 97.6 | 97.6 | 97.0 | 96.8 | 96.9 | 96.1 | 96.3 | 95.8 | 95.6 |
| Selected building materials | 106.0 | 109.8 | 114.0 | 109.9 | 112.1 | 110.3 | 111.0 | 114.0 | 114.7 | 113.7 | 114.8 | 112.3 | 112.8 |
| Unfinished metals associated with durable goods | 93.7 | 92.5 | 93.3 | 92.6 | 91.8 | 92.4 | 92.9 | 93.6 | 95.5 | 95.8 | 96.2 | 97.9 | 97.4 |
| Nonmetals associated with durable goods | 97.8 | 97.5 | 97.8 | 97.8 | 97.8 | 98.3 | 97.9 | 97.3 | 96.7 | 96.0 | 95.8 | 95.7 | 95.5 |
| Capital goods | 97.1 | 96.8 | 97.0 | 96.7 | 96.3 | 96.1 | 94.4 | 93.9 | 93.5 | 92.6 | 92.0 | 92.1 | 91.7 |
| Electric and electrical generating equipment | 99.2 | 99.1 | 99.1 | 99.3 | 99.0 | 99.0 | 98.8 | 98.4 | 97.6 | 97.6 | 97.3 | 97.1 | 96.9 |
| Nonelectrical machinery | 96.2 | 95.7 | 96.0 | 95.5 | 94.8 | 94.5 | 92.7 | 92.1 | 91.7 | 90.7 | 90.0 | 90.1 | 89.6 |
| Automotive vehicles, parts, and engines | 100.5 | 100.6 | 100.9 | 100.7 | 100.6 | 100.8 | 100.7 | 100.7 | 100.8 | 100.6 | 100.3 | 100.8 | 100.9 |
| Consumer goods, excluding automotive | 100.2 | 100.2 | 100.4 | 100.2 | 100.1 | 100.1 | 100.0 | 100.2 | 99.6 | 99.6 | 99.7 | 99.5 | 99.6 |
| Nondurables, manufactured | 100.6 | 100.7 | 100.9 | 100.7 | 100.7 | 100.5 | 100.6 | 100.6 | 100.5 | 100.8 | 101.0 | 101.0 | 100.9 |
| Durables, manufactured | 99.9 | 99.9 | 99.9 | 99.8 | 99.6 | 99.6 | 99.3 | 99.0 | 98.5 | 98.4 | 98.0 | 98.1 | 98.2 |
| Nonmanufactured consumer goods | 98.5 | 98.2 | 99.4 | 99.8 | 99.4 | 101.0 | 101.4 | 108.2 | 100.4 | 98.9 | 102.8 | 99.1 | 99.8 |

## 37. U.S. international price indexes for selected categories of services

[1990 = 100, unless otherwise indicated]

| Category | 1995 | | | 1996 | | | | 1997 | |
|---|---|---|---|---|---|---|---|---|---|
| | June | Sept | Dec. | Mar. | June | Sept. | Dec. | Mar. | June |
| Air freight (inbound) (9/90 = 100) | 102.9 | 98.0 | 98.7 | 95.9 | 95.1 | 95.6 | 95.0 | 89.5 | 89.9 |
| Air freight (outbound) (9/92 = 100) | 99.9 | 100.4 | 99.7 | 99.1 | 99.4 | 98.9 | 99.2 | 99.8 | 99.2 |
| Air passenger fares (U.S. carriers) | 105.3 | 103.6 | 96.1 | 98.3 | 104.3 | 107.3 | 101.6 | 97.1 | 113.0 |
| Air passenger fares (foreign carriers) | 105.3 | 102.0 | 96.9 | 96.3 | 103.0 | 105.5 | 100.7 | 98.5 | 106.1 |
| Ocean liner freight (inbound) | 100.3 | 101.5 | 101.1 | 101.5 | 99.6 | 98.0 | 98.4 | 97.6 | 96.8 |

## 38. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

| Item | Quarterly indexes | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1994 | | | 1995 | | | | 1996 | | | | 1997 | |
| | II | III | IV | I | II | III | IV | I | II | III | IV | I | II |
| **Business** | | | | | | | | | | | | | |
| Output per hour of all persons | 100.7 | 100.5 | 100.7 | 100.2 | 100.4 | 100.6 | 101.1 | 101.6 | 102.3 | 102.0 | 102.5 | 102.9 | 103.6 |
| Compensation per hour | 104.0 | 104.4 | 105.1 | 105.8 | 106.6 | 107.3 | 108.1 | 108.9 | 110.1 | 111.0 | 111.9 | 113.1 | 114.0 |
| Real compensation per hour | 98.8 | 98.3 | 98.3 | 98.3 | 98.3 | 98.4 | 98.6 | 98.4 | 98.8 | 98.9 | 98.9 | 99.4 | 99.9 |
| Unit labor costs | 103.2 | 103.9 | 104.3 | 105.6 | 106.1 | 106.7 | 107.0 | 107.1 | 107.7 | 108.8 | 109.2 | 109.9 | 110.0 |
| Unit nonlabor payments | 106.5 | 107.4 | 108.3 | 108.3 | 108.4 | 108.8 | 109.2 | 110.6 | 111.1 | 110.8 | 111.4 | 111.8 | 112.5 |
| Implicit price deflator | 104.4 | 105.1 | 105.8 | 106.5 | 107.0 | 107.4 | 107.8 | 108.4 | 108.9 | 109.6 | 110.0 | 110.6 | 110.9 |
| **Nonfarm business** | | | | | | | | | | | | | |
| Output per hour of all persons | 100.7 | 100.4 | 100.8 | 100.3 | 100.5 | 100.8 | 101.2 | 101.7 | 102.2 | 102.0 | 102.4 | 102.8 | 103.5 |
| Compensation per hour | 103.9 | 104.2 | 105.0 | 105.6 | 106.4 | 107.1 | 107.9 | 108.7 | 109.8 | 110.6 | 111.5 | 112.8 | 113.7 |
| Real compensation per hour | 98.7 | 98.1 | 98.2 | 98.2 | 98.1 | 98.3 | 98.4 | 98.3 | 98.5 | 98.6 | 98.5 | 99.1 | 99.6 |
| Unit labor costs | 103.1 | 103.8 | 104.2 | 105.3 | 105.8 | 106.3 | 106.6 | 106.9 | 107.4 | 108.5 | 108.9 | 109.7 | 109.8 |
| Unit nonlabor payments | 107.0 | 108.1 | 109.2 | 109.5 | 109.6 | 109.7 | 109.8 | 111.1 | 111.4 | 111.0 | 111.6 | 111.9 | 112.4 |
| Implicit price deflator | 104.5 | 105.3 | 106.0 | 106.8 | 107.2 | 107.5 | 107.8 | 108.4 | 108.8 | 109.4 | 109.8 | 110.5 | 110.8 |
| **Nonfinancial corporations** | | | | | | | | | | | | | |
| Output per hour of all employees | 103.0 | 103.1 | 103.8 | 103.0 | 103.5 | 104.7 | 105.2 | 105.6 | 106.4 | 107.0 | 107.6 | 108.1 | 108.9 |
| Compensation per hour | 103.7 | 104.0 | 104.6 | 105.2 | 106.0 | 106.6 | 107.3 | 107.8 | 109.0 | 109.9 | 110.7 | 111.9 | 112.8 |
| Real compensation per hour | 98.5 | 97.9 | 97.9 | 97.8 | 97.7 | 97.8 | 97.8 | 97.5 | 97.8 | 97.9 | 97.8 | 98.3 | 98.8 |
| Total unit costs | 100.1 | 100.5 | 100.3 | 101.6 | 101.8 | 101.1 | 101.2 | 101.4 | 101.4 | 101.5 | 101.5 | 101.8 | 101.8 |
| Unit labor costs | 100.6 | 100.9 | 100.8 | 102.2 | 102.4 | 101.9 | 102.0 | 102.1 | 102.4 | 102.7 | 102.9 | 103.5 | 103.5 |
| Unit nonlabor costs | 98.8 | 99.5 | 99.1 | 99.8 | 100.1 | 99.0 | 99.1 | 99.2 | 98.4 | 98.1 | 97.4 | 97.0 | 96.9 |
| Unit profits | 132.4 | 136.3 | 142.1 | 135.2 | 134.9 | 145.5 | 147.3 | 152.5 | 154.7 | 156.0 | 156.4 | 157.9 | 159.4 |
| Unit nonlabor payments | 108.1 | 109.7 | 111.0 | 109.6 | 109.7 | 111.9 | 112.4 | 114.0 | 114.0 | 114.1 | 113.7 | 113.8 | 114.2 |
| Implicit price deflator | 103.1 | 103.7 | 104.1 | 104.6 | 104.8 | 105.1 | 105.4 | 106.0 | 106.2 | 106.4 | 106.5 | 106.9 | 107.0 |
| **Manufacturing** | | | | | | | | | | | | | |
| Output per hour of all persons | 104.8 | 105.2 | 105.7 | 106.7 | 107.6 | 108.8 | 109.2 | 110.3 | 111.0 | 112.4 | 113.5 | 114.2 | 114.9 |
| Compensation per hour | 105.3 | 105.9 | 106.6 | 107.2 | 108.2 | 109.2 | 110.1 | 110.8 | 112.1 | 112.9 | 113.5 | 114.7 | 115.4 |
| Real compensation per hour | 100.0 | 99.8 | 99.8 | 99.6 | 99.8 | 100.2 | 100.4 | 100.2 | 100.5 | 100.6 | 100.3 | 100.8 | 101.1 |
| Unit labor costs | 100.4 | 100.7 | 100.9 | 100.5 | 100.5 | 100.4 | 100.8 | 100.4 | 101.0 | 100.4 | 100.0 | 100.4 | 100.5 |

## 39. Annual indexes of multifactor productivity and related measures, selected years

[1987 = 100]

| Item | 1960 | 1970 | 1973 | 1980 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Private business** | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | |
| Output per hour of all persons | 53.5 | 74.8 | 83.0 | 89.1 | 100.9 | 101.0 | 101.9 | 102.9 | 105.9 | 106.4 | 107.3 |
| Output per unit of capital services | 115.9 | 115.1 | 120.1 | 105.8 | 101.3 | 101.3 | 99.8 | 97.0 | 98.1 | 99.1 | 100.7 |
| Multifactor productivity | 70.5 | 87.2 | 95.3 | 96.0 | 100.5 | 100.2 | 100.1 | 99.1 | 100.5 | 101.0 | 101.8 |
| Output | 37.8 | 57.4 | 67.9 | 79.9 | 104.3 | 107.0 | 107.9 | 106.5 | 109.3 | 112.5 | 117.4 |
| Inputs: | | | | | | | | | | | |
| Labor input | 66.7 | 74.2 | 78.7 | 86.8 | 104.2 | 107.2 | 107.8 | 106.5 | 107.5 | 110.4 | 114.8 |
| Capital services | 32.6 | 49.9 | 56.6 | 75.5 | 102.9 | 105.7 | 108.1 | 109.8 | 111.4 | 113.5 | 116.6 |
| Combined units of labor and capital input | 53.6 | 65.8 | 71.3 | 83.2 | 103.8 | 106.7 | 107.9 | 107.5 | 108.7 | 111.3 | 115.4 |
| Capital per hour of all persons | 46.2 | 65.0 | 69.2 | 84.2 | 99.6 | 99.7 | 102.1 | 106.1 | 108.0 | 107.4 | 106.6 |
| **Private nonfarm business** | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | |
| Output per hour of all persons | 57.7 | 77.3 | 85.6 | 90.6 | 100.9 | 100.7 | 101.3 | 102.5 | 105.1 | 105.6 | 106.4 |
| Output per unit of capital services | 122.6 | 120.5 | 125.2 | 108.2 | 101.3 | 100.8 | 99.1 | 96.2 | 96.9 | 98.1 | 99.3 |
| Multifactor productivity | 74.9 | 89.9 | 98.1 | 97.7 | 100.5 | 99.9 | 99.4 | 98.5 | 99.6 | 100.2 | 100.7 |
| Output | 37.4 | 57.4 | 68.3 | 80.2 | 104.5 | 107.1 | 107.8 | 106.4 | 108.9 | 112.4 | 117.1 |
| Inputs: | | | | | | | | | | | |
| Labor input | 61.4 | 72.0 | 76.9 | 85.7 | 104.4 | 107.6 | 108.3 | 106.8 | 108.0 | 111.2 | 115.6 |
| Capital services | 30.5 | 47.7 | 54.5 | 74.2 | 103.2 | 106.2 | 108.8 | 110.6 | 112.4 | 114.7 | 118.0 |
| Combined units of labor and capital input | 49.9 | 63.9 | 69.6 | 82.1 | 104.0 | 107.2 | 108.5 | 107.9 | 109.3 | 112.2 | 116.3 |
| Capital per hour of all persons | 47.0 | 64.1 | 68.3 | 83.8 | 99.6 | 99.9 | 102.2 | 106.6 | 108.5 | 107.7 | 107.1 |
| **Manufacturing** | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | |
| Output per hour of all persons | 45.9 | 61.3 | 69.4 | 79.1 | 101.1 | 102.8 | 104.7 | 107.2 | 111.1 | 113.4 | – |
| Output per unit of capital services | 122.7 | 116.6 | 126.9 | 102.5 | 101.6 | 100.6 | 97.0 | 93.0 | 93.5 | 94.5 | – |
| Multifactor productivity | 67.6 | 80.1 | 87.8 | 86.4 | 100.6 | 100.3 | 99.8 | 99.7 | 102.4 | 103.5 | – |
| Output | 40.8 | 61.6 | 74.0 | 82.1 | 104.2 | 106.4 | 105.9 | 104.1 | 107.2 | 111.0 | – |
| Inputs: | | | | | | | | | | | |
| Hours of all persons | 88.9 | 100.6 | 106.6 | 103.8 | 103.1 | 103.5 | 101.2 | 97.1 | 96.5 | 97.8 | – |
| Capital services | 33.2 | 52.8 | 58.3 | 80.1 | 102.6 | 105.8 | 109.2 | 111.9 | 114.6 | 117.4 | – |

– Data not available.

NOTE: Productivity and output in this table have not been revised for consistency with the December 1991 comprehensive revisions to the National Income and Product Accounts.

## 40. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

| Item | 1960 | 1970 | 1973 | 1986 | 1988 | 1989 | 1990 | 1991 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Business** | | | | | | | | | | | | |
| Output per hour of all persons | 51.4 | 70.5 | 78.4 | 94.0 | 94.6 | 95.4 | 96.1 | 96.7 | 100.2 | 100.6 | 100.5 | 102.0 |
| Compensation per hour | 13.6 | 23.6 | 29.0 | 76.8 | 83.5 | 85.8 | 90.7 | 95.1 | 102.6 | 104.3 | 106.9 | 110.4 |
| Real compensation per hour | 64.7 | 85.4 | 91.6 | 98.3 | 99.0 | 97.1 | 97.4 | 97.9 | 99.6 | 98.7 | 98.4 | 98.7 |
| Unit labor costs | 26.6 | 33.5 | 37.0 | 81.7 | 88.2 | 89.9 | 94.4 | 98.3 | 102.4 | 103.7 | 106.3 | 108.2 |
| Unit nonlabor payments | 24.6 | 30.6 | 36.6 | 81.7 | 84.1 | 91.3 | 93.5 | 96.6 | 102.7 | 106.8 | 108.7 | 111.0 |
| Implicit price deflator | 25.8 | 32.4 | 36.8 | 81.7 | 86.8 | 90.4 | 94.1 | 97.7 | 102.5 | 104.8 | 107.2 | 109.2 |
| **Nonfarm business** | | | | | | | | | | | | |
| Output per hour of all persons | 54.8 | 72.6 | 80.7 | 94.7 | 95.2 | 95.7 | 96.2 | 96.9 | 100.1 | 100.5 | 100.7 | 102.0 |
| Compensation per hour | 14.3 | 23.8 | 29.2 | 77.2 | 83.6 | 85.8 | 90.6 | 95.1 | 102.3 | 104.1 | 106.7 | 110.1 |
| Real compensation per hour | 67.7 | 86.1 | 92.3 | 98.8 | 99.1 | 97.1 | 97.3 | 97.9 | 99.3 | 98.5 | 98.3 | 98.4 |
| Unit labor costs | 26.1 | 32.8 | 36.2 | 81.5 | 87.8 | 89.7 | 94.1 | 98.1 | 102.2 | 103.6 | 106.0 | 107.9 |
| Unit nonlabor payments | 24.0 | 30.3 | 34.3 | 81.3 | 83.8 | 90.7 | 93.2 | 96.8 | 103.1 | 107.4 | 109.7 | 111.3 |
| Implicit price deflator | 25.3 | 31.9 | 35.5 | 81.4 | 86.4 | 90.0 | 93.8 | 97.6 | 102.5 | 104.9 | 107.3 | 109.1 |
| **Nonfinancial corporations** | | | | | | | | | | | | |
| Output per hour of all employees | 54.5 | 69.0 | 74.4 | 93.7 | 96.7 | 95.4 | 96.1 | 97.5 | 101.2 | 103.3 | 104.1 | 106.6 |
| Compensation per hour | 15.6 | 25.4 | 30.7 | 78.7 | 84.8 | 86.9 | 91.4 | 95.6 | 102.1 | 103.9 | 106.3 | 109.4 |
| Real compensation per hour | 73.9 | 91.7 | 97.2 | 100.8 | 100.6 | 98.4 | 98.1 | 98.5 | 99.1 | 98.4 | 97.9 | 97.8 |
| Total unit costs | 27.8 | 36.1 | 37.9 | 84.9 | 88.2 | 92.5 | 96.2 | 99.3 | 100.5 | 100.3 | 101.4 | 101.4 |
| Unit labor costs | 28.6 | 36.7 | 41.3 | 84.0 | 87.7 | 91.1 | 95.2 | 98.0 | 100.9 | 100.6 | 102.1 | 102.6 |
| Unit nonlabor costs | 25.3 | 34.3 | 37.5 | 87.5 | 89.7 | 96.3 | 99.1 | 103.0 | 99.4 | 99.7 | 99.5 | 98.3 |
| Unit profits | 47.7 | 42.0 | 52.8 | 88.0 | 103.8 | 96.0 | 94.6 | 93.9 | 113.3 | 134.5 | 140.8 | 154.9 |
| Unit nonlabor payments | 31.5 | 36.4 | 41.7 | 87.7 | 93.6 | 96.2 | 97.9 | 100.5 | 103.2 | 109.4 | 110.9 | 114.0 |
| Implicit price deflator | 29.6 | 36.6 | 41.5 | 85.2 | 89.6 | 92.8 | 96.1 | 98.8 | 101.7 | 103.4 | 105.0 | 106.3 |
| **Manufacturing** | | | | | | | | | | | | |
| Output per hour of all persons | 41.2 | 55.1 | 62.6 | 87.6 | 91.4 | 92.6 | 94.3 | 96.4 | 102.2 | 104.7 | 108.1 | 111.7 |
| Compensation per hour | 14.9 | 23.8 | 28.6 | 78.6 | 84.0 | 86.8 | 91.0 | 95.7 | 102.9 | 105.6 | 108.7 | 112.2 |
| Real compensation per hour | 70.6 | 86.1 | 90.5 | 100.6 | 99.6 | 98.2 | 97.6 | 98.6 | 99.9 | 100.0 | 100.1 | 100.3 |
| Unit labor costs | 36.1 | 43.2 | 45.7 | 89.8 | 91.9 | 93.7 | 96.5 | 99.3 | 100.7 | 100.8 | 100.6 | 100.5 |
| Unit nonlabor payments | 26.6 | 30.1 | 37.0 | 85.7 | 91.2 | 96.8 | 100.1 | 99.6 | 101.1 | 103.0 | 107.8 | – |
| Implicit price deflator | 30.3 | 35.2 | 40.4 | 87.3 | 91.5 | 95.6 | 98.7 | 99.5 | 101.0 | 102.2 | 105.0 | – |

– Data not available.

## 41. Annual indexes of output per hour for selected industries

[1987 = 100]

| Industry | SIC | 1973 | 1984 | 1985 | 1986 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Iron mining, usable ore | 101 | 50.8 | 70.0 | 76.1 | 79.3 | 103.1 | 98.4 | 88.5 | 85.0 | 83.3 | 86.9 | 85.0 | 95.9 |
| Copper mining, recoverable metal | 102 | 42.4 | 75.9 | 93.6 | 109.7 | 109.1 | 106.5 | 102.7 | 100.5 | 115.2 | 118.1 | 126.0 | 120.3 |
| Coal mining | 12 | 68.9 | 83.4 | 85.1 | 92.4 | 110.5 | 116.4 | 118.3 | 122.1 | 132.7 | 140.4 | 147.3 | 153.9 |
| Crude petroleum and natural gas production | 131 | 173.5 | 81.9 | 83.0 | 90.3 | 100.9 | 98.0 | 96.9 | 97.9 | 102.1 | 105.9 | 112.4 | 120.5 |
| Nonmetallic minerals, except fuels | 14 | 86.5 | 94.0 | 95.1 | 95.1 | 101.0 | 99.6 | 101.4 | 98.5 | 103.0 | 100.8 | 104.4 | 103.0 |
| Meat packing plants | 2011 | 65.1 | 93.6 | 98.3 | 98.7 | 100.9 | 97.9 | 96.8 | 100.2 | 104.5 | 105.1 | 101.0 | 101.7 |
| Sausages and other prepared meats | 2013 | 67.2 | 99.3 | 97.8 | 98.6 | 107.1 | 105.9 | 97.4 | 95.9 | 104.6 | 105.0 | 101.4 | 105.3 |
| Poultry dressing and processing | 2015 | 58.0 | 99.1 | 100.5 | 95.6 | 96.2 | 105.2 | 108.6 | 115.4 | 119.6 | 119.8 | 119.4 | 122.5 |
| Cheese, natural and processed | 2022 | 72.1 | 85.1 | 88.2 | 93.5 | 99.8 | 102.6 | 108.2 | 114.6 | 121.8 | 115.5 | 117.5 | 120.5 |
| Fluid milk | 2026 | 54.6 | 88.9 | 92.0 | 96.0 | 102.3 | 103.7 | 103.3 | 104.3 | 104.0 | 107.1 | 112.9 | 115.8 |
| Canned fruits and vegetables | 2033 | 70.1 | 87.4 | 92.8 | 99.1 | 98.7 | 92.9 | 93.8 | 100.1 | 101.5 | 106.6 | 101.5 | 109.3 |
| Frozen fruits and vegetables | 2037 | 77.9 | 99.7 | 95.2 | 103.3 | 94.0 | 98.0 | 90.0 | 94.6 | 96.4 | 102.8 | 109.3 | 111.1 |
| Flour and other grain mill products | 2041 | 68.5 | 91.7 | 95.8 | 95.9 | 102.5 | 102.5 | 107.9 | 108.3 | 111.9 | 122.2 | 126.8 | 117.6 |
| Cereal breakfast foods | 2043 | 65.6 | 92.8 | 97.1 | 98.6 | 98.6 | 95.5 | 100.2 | 102.3 | 99.1 | 95.5 | 106.6 | 118.4 |
| Rice milling | 2044 | 59.3 | 63.8 | 68.6 | 72.7 | 83.1 | 97.5 | 104.9 | 99.3 | 101.4 | 129.5 | 109.2 | 102.6 |
| Wet corn milling | 2046 | 24.1 | 74.9 | 74.6 | 97.3 | 96.1 | 103.6 | 103.8 | 100.4 | 101.8 | 112.0 | 110.0 | 122.5 |
| Prepared feeds for animals and fowls | 2047,48 | 51.6 | 89.2 | 96.9 | 95.2 | 101.5 | 103.7 | 107.0 | 108.0 | 108.1 | 110.7 | 108.5 | 115.6 |
| Bakery products | 205 | 82.3 | 93.4 | 95.6 | 100.1 | 93.4 | 91.0 | 93.2 | 89.2 | 89.4 | 90.3 | 91.1 | 92.2 |
| Raw and refined cane sugar | 2061,62 | 78.5 | 89.1 | 96.6 | 96.9 | 99.7 | 101.8 | 107.7 | 110.3 | 111.7 | 120.2 | 115.0 | 121.8 |
| Beet sugar | 2063 | 75.9 | 79.7 | 73.4 | 80.8 | 97.6 | 92.1 | 97.6 | 102.3 | 110.8 | 109.8 | 124.2 | 135.9 |
| Malt beverages | 2082 | 43.3 | 77.7 | 73.7 | 85.0 | 99.1 | 105.2 | 110.6 | 109.6 | 113.4 | 112.6 | 117.5 | 118.0 |
| Bottled and canned soft drinks | 2086 | 49.2 | 81.6 | 85.2 | 91.4 | 109.8 | 119.4 | 126.7 | 135.1 | 144.2 | 144.7 | 150.4 | 160.0 |
| Fresh or frozen prepared fish | 2092 | 93.3 | 89.4 | 87.8 | 91.2 | 100.0 | 94.6 | 88.9 | 87.4 | 95.6 | 100.1 | 93.2 | 88.1 |
| Cigarettes, chewing and smoking tobacco | 211,3 | 79.4 | 91.3 | 93.6 | 95.4 | 104.8 | 106.7 | 109.9 | 111.6 | 113.4 | 101.6 | 130.1 | 149.2 |
| Cotton and synthetic broadwoven fabrics | 221,2 | 58.1 | 91.1 | 94.8 | 101.1 | 100.0 | 103.9 | 108.1 | 113.8 | 118.4 | 125.8 | 134.1 | 142.8 |
| Hosiery | 2251,52 | 63.2 | 102.4 | 100.9 | 102.5 | 108.1 | 110.9 | 109.2 | 115.7 | 122.2 | 117.4 | 124.8 | 127.1 |
| Yarn spinning mills | 2281 | 55.9 | 86.2 | 89.6 | 93.2 | 98.5 | 103.3 | 106.0 | 105.5 | 114.1 | 120.0 | 125.5 | 133.2 |
| Men's and boys' suits and coats | 231 | 75.6 | 93.2 | 106.3 | 103.5 | 102.4 | 101.9 | 98.7 | 91.4 | 102.4 | 109.0 | 129.1 | 121.5 |
| Housefurnishings, except curtains and draperies | 2392 | 87.2 | 83.6 | 92.4 | 93.6 | 99.8 | 96.8 | 101.3 | 110.9 | 117.9 | 118.7 | 114.1 | 115.4 |
| Sawmills and planing mills, general | 2421 | 68.3 | 89.7 | 93.5 | 102.3 | 101.2 | 100.1 | 99.9 | 102.9 | 108.9 | 101.5 | 103.2 | 110.3 |
| Hardwood dimension and flooring mills | 2426 | 84.0 | 85.6 | 95.1 | 98.8 | 97.5 | 96.9 | 95.7 | 98.6 | 105.4 | 111.2 | 111.0 | 117.1 |
| Millwork | 2431 | 104.2 | 100.4 | 97.4 | 102.2 | 98.2 | 97.8 | 97.8 | 95.7 | 93.4 | 92.5 | 88.5 | 86.0 |
| Wood kitchen cabinets | 2434 | 80.5 | 91.6 | 87.1 | 85.2 | 97.7 | 91.1 | 93.6 | 92.3 | 102.0 | 101.9 | 101.3 | 102.8 |
| Hardwood veneer and plywood | 2435 | 80.2 | 83.9 | 84.5 | 83.2 | 99.0 | 98.9 | 92.2 | 93.3 | 104.1 | 106.1 | 90.5 | 84.2 |
| Softwood veneer and plywood | 2436 | 67.7 | 87.1 | 88.3 | 90.4 | 100.6 | 102.6 | 108.3 | 114.3 | 109.2 | 103.4 | 101.4 | 101.5 |
| Wood containers | 244 | – | 103.4 | 99.6 | 98.7 | 103.2 | 108.8 | 111.6 | 113.5 | 109.8 | 100.5 | 101.0 | 107.1 |
| Mobile homes | 2451 | – | 94.4 | 94.3 | 94.4 | 100.6 | 98.8 | 101.2 | 102.5 | 102.4 | 103.8 | 97.6 | 99.7 |
| Wood household furniture | 2511,17 | 88.5 | 96.9 | 95.0 | 99.6 | 100.8 | 101.2 | 102.5 | 101.3 | 106.5 | 106.2 | 105.7 | 109.1 |
| Upholstered household furniture | 2512 | 75.1 | 96.2 | 96.3 | 101.7 | 98.8 | 101.2 | 107.7 | 115.1 | 120.0 | 120.0 | 130.6 | 138.7 |
| Metal household furniture | 2514 | 68.7 | 84.9 | 89.4 | 95.3 | 100.2 | 100.7 | 101.4 | 107.2 | 109.5 | 106.8 | 96.1 | 95.1 |
| Mattresses and bedsprings | 2515 | 68.0 | 84.1 | 79.5 | 85.5 | 92.5 | 106.5 | 106.2 | 108.9 | 103.4 | 104.4 | 105.5 | 110.9 |
| Wood office furniture | 2521 | 82.5 | 99.3 | 99.4 | 96.2 | 95.4 | 95.4 | 97.4 | 101.3 | 107.1 | 104.4 | 104.0 | 103.3 |
| Office furniture, except wood | 2522 | 70.6 | 97.6 | 96.9 | 100.6 | 96.0 | 98.7 | 95.6 | 92.9 | 93.9 | 94.3 | 95.4 | 98.4 |
| Pulp, paper, and paperboard mills | 261,2,3 | 67.1 | 89.7 | 87.6 | 93.3 | 103.1 | 103.2 | 102.6 | 102.1 | 104.7 | 104.5 | 112.4 | 116.2 |
| Corrugated and solid fiber boxes | 2653 | 70.3 | 96.7 | 99.6 | 102.8 | 99.8 | 98.1 | 100.9 | 100.8 | 101.9 | 105.5 | 110.0 | 107.6 |
| Folding paperboard boxes | 2657 | 86.4 | 93.4 | 90.0 | 88.5 | 101.6 | 105.4 | 105.3 | 110.9 | 116.4 | 117.9 | 122.9 | 126.8 |
| Paper and plastic bags | 2673,74 | 90.7 | 99.9 | 99.7 | 101.8 | 97.7 | 93.7 | 92.2 | 89.5 | 93.9 | 92.0 | 96.5 | 91.7 |
| Alkalies and chlorine | 2812 | 38.4 | 66.6 | 70.8 | 97.7 | 101.6 | 92.5 | 92.3 | 86.2 | 87.7 | 84.8 | 84.1 | 87.7 |
| Inorganic pigments | 2816 | 72.6 | 81.4 | 84.4 | 88.6 | 103.3 | 107.8 | 104.5 | 98.9 | 107.8 | 107.8 | 115.0 | 108.1 |
| Industrial inorganic chemicals, n.e.s. | 2819 pt. | 90.6 | 88.4 | 87.3 | 88.6 | 97.5 | 105.9 | 109.0 | 102.3 | 104.9 | 110.7 | 113.2 | 126.5 |
| Synthetic fibers | 2823,24 | 38.4 | 79.8 | 79.3 | 90.8 | 102.9 | 104.1 | 98.7 | 97.5 | 99.3 | 112.3 | 119.4 | 125.7 |
| Soaps and detergents | 2841 | 89.1 | 90.5 | 91.5 | 92.3 | 102.4 | 109.4 | 128.2 | 126.4 | 115.3 | 112.6 | 111.7 | 126.0 |
| Cosmetics and other toiletries | 2844 | 88.6 | 87.3 | 90.3 | 96.6 | 105.2 | 102.7 | 101.1 | 103.9 | 108.4 | 108.5 | 111.6 | 115.2 |
| Paints and allied products | 285 | 63.2 | 93.6 | 96.9 | 98.0 | 101.4 | 103.3 | 106.3 | 104.3 | 102.9 | 108.8 | 116.7 | 116.6 |
| Industrial organic chemicals, n.e.c. | 2869 | 73.1 | 89.6 | 87.8 | 92.3 | 110.5 | 110.5 | 99.0 | 92.6 | 91.6 | 88.5 | 96.2 | 93.3 |
| Nitrogenous fertilizers | 2873 | 65.4 | 101.1 | 100.7 | 90.5 | 101.3 | 103.3 | 107.7 | 108.4 | 111.8 | 117.5 | 111.1 | 107.6 |
| Phosphatic fertilizers | 2874 | 62.4 | 88.4 | 84.2 | 79.6 | 92.0 | 83.3 | 99.7 | 107.3 | 105.0 | 106.0 | 122.6 | 118.1 |
| Fertilizers, mixing only | 2875 | 90.5 | 97.8 | 100.8 | 95.1 | 104.7 | 112.4 | 112.8 | 114.6 | 127.1 | 139.1 | 118.9 | 119.9 |
| Agricultural chemicals, n.e.c. | 2879 | 74.3 | 98.8 | 92.9 | 93.2 | 108.4 | 108.9 | 106.2 | 102.2 | 108.4 | 111.0 | 115.6 | 124.9 |
| Petroleum refining | 291 | 84.0 | 78.7 | 84.7 | 94.9 | 105.3 | 109.6 | 109.2 | 106.6 | 111.3 | 120.1 | 123.8 | 133.0 |
| Tires and inner tubes | 301 | 56.0 | 88.8 | 89.3 | 92.6 | 102.9 | 103.8 | 103.0 | 102.4 | 107.8 | 116.5 | 124.1 | 131.4 |
| Rubber and plastics hose and belting | 3052 | 78.4 | 104.9 | 100.1 | 102.1 | 108.2 | 97.8 | 103.3 | 96.1 | 104.3 | 111.3 | 102.9 | 102.0 |
| Miscellaneous plastics products, n.e.c. | 308 | 72.8 | 86.4 | 88.2 | 88.9 | 100.1 | 101.1 | 105.3 | 107.5 | 114.0 | 116.2 | 119.8 | 120.2 |
| Footwear, except rubber | 314 | 90.7 | 98.8 | 100.3 | 101.9 | 102.3 | 100.9 | 92.8 | 93.1 | 93.3 | 96.4 | 106.0 | 101.2 |
| Glass containers | 3221 | 75.2 | 97.4 | 93.4 | 98.5 | 99.6 | 101.6 | 107.5 | 108.1 | 111.5 | 106.0 | 111.0 | 109.9 |
| Cement, hydraulic | 324 | 71.3 | 89.4 | 91.8 | 97.1 | 103.2 | 110.2 | 112.4 | 108.3 | 115.1 | 119.9 | 125.6 | 123.4 |
| Clay construction products | 3251,53,59 | 78.5 | 92.7 | 94.2 | 95.5 | 105.2 | 98.3 | 102.3 | 97.4 | 98.9 | 102.3 | 108.0 | 111.3 |
| Clay refractories | 3255 | 80.1 | 96.9 | 94.9 | 100.8 | 102.3 | 98.5 | 103.6 | 97.9 | 98.6 | 95.0 | 107.3 | 96.0 |
| Concrete products | 3271,72 | 92.5 | 98.3 | 99.5 | 104.4 | 102.1 | 104.8 | 103.8 | 104.9 | 103.2 | 109.3 | 108.6 | 114.3 |
| Ready-mixed concrete | 3273 | 99.1 | 92.9 | 93.6 | 96.0 | 100.2 | 101.0 | 100.2 | 96.7 | 98.2 | 96.9 | 93.0 | 95.8 |
| Steel | 331 | 64.2 | 81.3 | 85.8 | 89.7 | 113.5 | 108.5 | 110.5 | 108.2 | 117.7 | 134.0 | 144.6 | 145.4 |
| Gray and ductile iron foundries | 3321 | 91.3 | 99.1 | 96.9 | 99.3 | 108.0 | 106.9 | 107.9 | 104.6 | 107.7 | 113.1 | 115.5 | 112.4 |
| Steel foundries | 3324,25 | 105.8 | 102.4 | 99.5 | 104.9 | 95.5 | 96.3 | 96.9 | 94.8 | 95.6 | 101.5 | 102.2 | 106.2 |
| Primary copper | 3331 | 32.8 | 57.6 | 73.8 | 88.7 | 103.8 | 94.7 | 84.9 | 82.5 | 71.9 | 86.9 | 74.0 | 77.3 |
| Primary aluminum | 3334 | 73.6 | 100.7 | 97.6 | 102.7 | 102.3 | 104.8 | 106.5 | 110.6 | 109.7 | 105.7 | 99.0 | 102.2 |
| Copper rolling and drawing | 3351 | 77.5 | 84.7 | 86.2 | 92.3 | 93.0 | 89.1 | 90.7 | 86.4 | 83.0 | 89.2 | 96.6 | 96.6 |

See footnotes at end of table.

## 41. Continued—Annual indexes of output per hour for selected industries

[1987 = 100]

| Industry | SIC | 1973 | 1984 | 1985 | 1986 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum rolling and drawing | 3353,54,55 | 79.0 | 92.3 | 85.7 | 95.8 | 96.3 | 90.6 | 91.2 | 90.3 | 96.5 | 93.9 | 99.6 | 93.9 |
| Metal cans | 3411 | 59.2 | 101.1 | 99.2 | 95.9 | 106.9 | 108.1 | 117.5 | 123.8 | 129.7 | 134.6 | 140.7 | 146.3 |
| Hand and edge tools, n.e.c. | 3423 | 108.6 | 97.9 | 98.8 | 97.1 | 100.5 | 101.0 | 95.0 | 93.1 | 93.1 | 93.3 | 100.8 | 98.4 |
| Heating equipment, except electric | 3433 | 78.0 | 91.6 | 91.9 | 96.2 | 113.7 | 105.0 | 114.0 | 119.4 | 121.2 | 121.8 | 130.2 | 131.1 |
| Fabricated structural metal | 3441 | 97.1 | 91.2 | 99.0 | 99.0 | 100.4 | 97.6 | 101.2 | 104.5 | 103.6 | 108.1 | 109.8 | 110.1 |
| Metal doors, sash, and trim | 3442 | 90.5 | 101.4 | 104.8 | 102.0 | 104.6 | 105.8 | 103.1 | 103.0 | 106.7 | 105.5 | 103.3 | 96.8 |
| Fabricated plate work | 3443 | – | 88.3 | 87.5 | 86.4 | 96.2 | 90.3 | 94.1 | 94.3 | 98.3 | 98.3 | 109.3 | 109.4 |
| Bolts, nuts, rivets, and washers | 3452 | 75.8 | 85.3 | 88.8 | 91.0 | 97.0 | 93.8 | 93.7 | 96.1 | 91.9 | 92.8 | 95.8 | 100.5 |
| Automotive stampings | 3465 | 74.9 | 100.5 | 94.5 | 95.7 | 102.8 | 101.8 | 96.1 | 97.3 | 113.8 | 120.8 | 124.9 | 128.4 |
| Metal stampings, n.e.c. | 3469 | 96.8 | 94.3 | 88.6 | 93.9 | 98.0 | 95.3 | 90.4 | 89.5 | 98.8 | 104.8 | 109.3 | 112.8 |
| Valves and pipe fittings | 3491,92,94 | 93.6 | 95.0 | 94.4 | 93.9 | 101.4 | 101.2 | 102.1 | 101.7 | 100.4 | 104.2 | 109.7 | 109.7 |
| Fabricated pipe and fittings | 3498 | 140.8 | 130.0 | 120.0 | 121.4 | 99.6 | 102.3 | 107.0 | 114.2 | 109.6 | 113.3 | 112.9 | 113.0 |
| Internal combustion engines, n.e.c. | 3519 | 83.1 | 90.2 | 92.0 | 98.5 | 106.3 | 113.2 | 108.4 | 103.3 | 101.2 | 104.3 | 119.5 | 124.9 |
| Farm machinery and equipment | 3523 | 108.6 | 112.7 | 101.6 | 95.7 | 112.8 | 124.0 | 131.8 | 125.3 | 119.1 | 123.7 | 131.4 | 143.4 |
| Lawn and garden equipment | 3524 | 70.0 | 79.3 | 82.4 | 93.2 | 97.5 | 93.2 | 94.8 | 95.8 | 108.7 | 114.7 | 116.6 | 126.3 |
| Construction machinery | 3531 | 87.9 | 91.6 | 92.2 | 99.1 | 107.6 | 110.2 | 109.6 | 101.0 | 100.6 | 107.0 | 123.2 | 132.9 |
| Mining machinery | 3532 | 102.2 | 90.2 | 93.7 | 95.1 | 102.0 | 107.0 | 98.4 | 90.0 | 90.1 | 109.5 | 99.5 | 109.3 |
| Oil and gas field machinery | 3533 | 156.9 | 126.0 | 115.2 | 105.9 | 123.1 | 116.1 | 113.9 | 110.9 | 125.7 | 122.1 | 119.9 | 117.5 |
| Metal cutting machine tools | 3541 | 101.4 | 87.2 | 89.9 | 92.0 | 94.8 | 99.9 | 99.2 | 94.8 | 113.0 | 111.4 | 110.0 | 111.9 |
| Metal forming machine tools | 3542 | 112.5 | 90.7 | 93.1 | 93.7 | 113.1 | 107.9 | 97.7 | 88.4 | 102.5 | 115.0 | 104.3 | 116.2 |
| Machine tool accessories | 3545 | 105.9 | 94.6 | 92.3 | 95.0 | 98.2 | 102.5 | 104.1 | 104.6 | 96.8 | 101.5 | 114.8 | 122.3 |
| Pumps and pumping equipment | 3561,94 | 84.0 | 92.0 | 91.9 | 92.7 | 105.7 | 101.3 | 103.4 | 102.5 | 98.6 | 105.2 | 110.6 | 113.4 |
| Ball and roller bearings | 3562 | 108.0 | 95.4 | 91.6 | 94.1 | 102.9 | 99.0 | 93.1 | 89.6 | 97.8 | 103.8 | 106.3 | 107.2 |
| Air and gas compressors | 3563 | 87.6 | 90.1 | 92.2 | 96.0 | 103.7 | 105.3 | 107.8 | 110.2 | 112.7 | 111.5 | 117.3 | 115.0 |
| Refrigeration and heating equipment | 3585 | 100.3 | 100.1 | 98.1 | 95.8 | 104.0 | 109.0 | 106.3 | 104.8 | 107.6 | 111.8 | 115.1 | 115.0 |
| Carburetors, pistons, rings, and valves | 3592 | 102.9 | 95.1 | 98.8 | 95.7 | 109.9 | 119.4 | 114.1 | 115.1 | 126.4 | 136.4 | 142.9 | 143.0 |
| Transformers, except electronic | 3612 | 100.2 | 95.4 | 97.0 | 99.3 | 102.8 | 104.3 | 107.3 | 110.7 | 126.5 | 121.8 | 143.4 | 159.9 |
| Switchgear and switchboard apparatus | 3613 | 88.2 | 92.2 | 95.1 | 95.9 | 109.1 | 106.5 | 106.5 | 103.9 | 114.6 | 123.1 | 123.8 | 131.7 |
| Motors and generators | 3621 | 89.0 | 93.3 | 94.9 | 96.8 | 102.8 | 103.6 | 100.9 | 104.4 | 111.5 | 127.1 | 124.4 | 139.1 |
| Household cooking equipment | 3631 | 61.8 | 92.0 | 90.3 | 104.6 | 116.1 | 96.8 | 99.5 | 104.9 | 100.9 | 103.7 | 127.4 | 125.5 |
| Household refrigerators and freezers | 3632 | 70.1 | 97.5 | 104.1 | 101.2 | 103.3 | 105.2 | 107.3 | 111.8 | 116.0 | 116.8 | 126.7 | 124.2 |
| Household laundry equipment | 3633 | 72.3 | 92.8 | 93.8 | 97.4 | 106.1 | 98.7 | 104.0 | 111.0 | 115.9 | 144.8 | 150.5 | 131.6 |
| Household appliances, n.e.c. | 3639 | 63.7 | 85.9 | 86.3 | 89.1 | 100.6 | 96.3 | 91.8 | 80.5 | 91.6 | 117.6 | 118.9 | 116.0 |
| Electric lamp bulbs and tubes | 3641 | 61.3 | 86.4 | 94.2 | 91.5 | 100.3 | 92.7 | 98.0 | 101.8 | 112.8 | 100.9 | 98.9 | 95.9 |
| Lighting fixtures and equipment | 3645,46,47,48 | 84.1 | 91.3 | 96.7 | 103.0 | 98.1 | 97.3 | 96.0 | 94.3 | 98.9 | 103.7 | 110.0 | 107.5 |
| Household audio and video equipment | 3651 | 22.3 | 84.7 | 96.3 | 106.9 | 106.2 | 120.5 | 124.1 | 135.7 | 151.8 | 163.1 | 179.3 | 225.3 |
| Motor vehicles and equipment | 371 | 68.7 | 91.1 | 95.3 | 95.1 | 103.2 | 103.3 | 102.4 | 96.7 | 104.3 | 105.4 | 107.3 | 104.4 |
| Aircraft | 3721 | 79.2 | 84.7 | 94.2 | 93.5 | 105.8 | 107.5 | 112.9 | 131.4 | 141.7 | 142.5 | 131.8 | 132.5 |
| Instruments to measure electricity | 3825 | 63.7 | 96.2 | 95.4 | 90.4 | 106.1 | 105.2 | 106.2 | 108.3 | 119.0 | 122.4 | 144.7 | 163.6 |
| Photographic equipment and supplies | 386 | 58.9 | 88.2 | 86.1 | 94.1 | 105.6 | 113.0 | 107.8 | 110.2 | 116.4 | 126.9 | 132.7 | 129.4 |
| Railroad transportation | 4011 | 46.5 | 78.0 | 81.5 | 89.2 | 108.4 | 114.6 | 118.5 | 127.8 | 139.6 | 145.6 | – | – |
| Bus carriers, class 1 | 411,13,14 pts. | 116.8 | 100.1 | 96.1 | 95.6 | 107.9 | 104.6 | – | – | – | – | – | – |
| Trucking, except local | 4213 | 69.5 | 97.3 | 93.8 | 96.8 | 105.2 | 109.4 | – | – | – | – | – | – |
| U.S. Postal service | 43 | 88.6 | 98.1 | 98.4 | 100.0 | 99.9 | 99.7 | 104.0 | 103.7 | 104.5 | 107.1 | 106.6 | 106.5 |
| Air transportation | 4512,13,22 pts. | 54.3 | 88.8 | 92.0 | 93.8 | 99.5 | 95.8 | 92.9 | 92.5 | 96.9 | 100.2 | 105.8 | 108.4 |
| Petroleum pipelines | 4612,13 | 93.2 | 99.4 | 99.9 | 102.0 | 104.8 | 103.2 | 102.5 | 99.0 | 100.2 | 104.4 | 108.1 | 117.7 |
| Telephone communications | 481 | 42.7 | 84.5 | 88.9 | 95.0 | 106.2 | 111.6 | 113.3 | 119.8 | 127.7 | 135.2 | 141.6 | 144.6 |
| Electric utilities | 491,3 pt. | 88.4 | 93.8 | 93.0 | 95.3 | 104.9 | 107.7 | 110.1 | 113.4 | 115.2 | 120.6 | 126.8 | 135.0 |
| Gas utilities | 492,3 pt | 145.5 | 114.1 | 111.9 | 102.1 | 105.5 | 103.5 | 94.8 | 94.0 | 95.3 | 107.0 | 102.2 | 105.9 |
| Scrap and waste materials | 5093 | – | 89.1 | 93.4 | 97.7 | 95.4 | 86.0 | 98.6 | 98.9 | 101.7 | 109.4 | 107.7 | 108.9 |
| Hardware stores | 525 | 83.3 | 96.6 | 95.6 | 101.6 | 108.6 | 115.2 | 110.4 | 102.5 | 107.2 | 106.7 | 114.5 | 106.4 |
| Department stores | 531 | 60.8 | 90.4 | 92.6 | 97.4 | 99.2 | 96.9 | 94.2 | 98.2 | 101.2 | 105.0 | 107.1 | 107.6 |
| Variety stores | 533 | 148.9 | 141.9 | 129.2 | 106.7 | 101.9 | 124.5 | 151.3 | 154.3 | 167.7 | 170.4 | 160.5 | 159.3 |
| General merchandise stores | 539 | – | 78.6 | 80.9 | 97.5 | 100.8 | 109.8 | 116.4 | 121.8 | 136.1 | 159.9 | 161.6 | 165.9 |
| Grocery stores | 541 | 109.1 | 107.9 | 105.7 | 103.8 | 98.9 | 95.4 | 94.6 | 93.7 | 93.3 | 92.7 | 92.2 | 91.2 |
| Retail bakeries | 546 | 125.6 | 96.0 | 87.6 | 93.6 | 89.8 | 83.3 | 89.7 | 94.7 | 94.0 | 85.6 | 85.6 | 84.6 |
| New and used car dealers | 551 | 85.1 | 99.5 | 99.8 | 101.6 | 103.5 | 102.5 | 106.1 | 104.2 | 106.5 | 107.4 | 108.3 | 107.1 |
| Auto and home supply stores | 553 | 71.1 | 90.4 | 94.5 | 94.3 | 103.2 | 101.5 | 102.8 | 98.9 | 98.9 | 98.9 | 103.0 | 106.8 |
| Gasoline service stations | 554 | 59.5 | 87.0 | 93.5 | 101.8 | 103.0 | 105.1 | 102.6 | 104.3 | 109.7 | 112.4 | 115.0 | 119.2 |
| Men's and boys' clothing stores | 561 | 77.6 | 93.7 | 98.3 | 100.7 | 106.0 | 109.3 | 112.8 | 117.7 | 116.4 | 115.7 | 120.9 | 122.6 |
| Women's clothing stores | 562 | 58.9 | 98.0 | 99.8 | 107.0 | 97.5 | 99.1 | 100.8 | 101.9 | 110.7 | 116.2 | 118.1 | 122.9 |
| Family clothing stores | 565 | 76.2 | 106.2 | 103.1 | 103.3 | 102.4 | 105.5 | 104.9 | 106.9 | 112.3 | 111.6 | 114.9 | 128.4 |
| Shoe stores | 566 | 81.3 | 90.6 | 97.6 | 105.5 | 102.7 | 107.2 | 106.2 | 105.1 | 111.5 | 110.8 | 120.5 | 123.8 |
| Furniture and homefurnishings stores | 571 | 83.9 | 97.9 | 94.8 | 101.2 | 98.9 | 101.3 | 102.2 | 101.6 | 108.6 | 108.9 | 111.0 | 116.4 |
| Household appliance stores | 572 | 59.8 | 87.2 | 94.9 | 106.5 | 98.5 | 103.5 | 102.8 | 105.2 | 113.9 | 114.6 | 115.9 | 119.9 |
| Radio, television, and computer stores | 573 | 45.6 | 79.1 | 89.3 | 94.1 | 119.3 | 115.7 | 120.9 | 129.6 | 143.5 | 157.3 | 178.4 | 195.6 |
| Eating and drinking places | 58 | 110.3 | 98.9 | 96.2 | 99.3 | 102.8 | 102.2 | 104.0 | 103.1 | 102.4 | 103.1 | 101.4 | 102.2 |
| Drug stores and proprietary stores | 591 | 92.2 | 106.4 | 102.5 | 101.6 | 101.9 | 102.5 | 103.6 | 104.7 | 103.6 | 104.7 | 103.7 | 102.8 |
| Liquor stores | 592 | 95.0 | 93.6 | 101.9 | 93.8 | 98.2 | 101.1 | 105.2 | 105.9 | 108.4 | 100.5 | 98.7 | 104.4 |
| Miscellaneous shopping goods stores | 594 | – | 92.6 | 94.1 | 97.1 | 98.4 | 101.7 | 101.5 | 102.0 | 100.6 | 103.9 | 108.2 | 114.0 |
| Catalog and mail-order houses | 5961 | – | 80.6 | 80.8 | 87.2 | 107.3 | 111.4 | 102.1 | 107.2 | 113.8 | 121.0 | 120.0 | 123.9 |
| Commercial banks | 602 | 81.2 | 89.6 | 94.3 | 96.2 | 102.9 | 101.3 | 104.6 | 107.4 | 109.4 | 119.5 | 119.5 | 124.4 |
| Hotels and motels | 701 | 102.4 | 101.6 | 101.2 | 98.9 | 97.6 | 95.0 | 96.0 | 99.0 | 107.6 | 106.8 | 111.0 | 113.2 |
| Laundry, cleaning, and garment services | 721 | 110.8 | 107.5 | 103.3 | 100.8 | 97.2 | 100.5 | 101.0 | 98.7 | 99.9 | 99.9 | 101.9 | 105.1 |
| Beauty shops | 723 | 85.9 | 98.5 | 96.1 | 96.9 | 95.1 | 99.6 | 96.8 | 94.8 | 99.6 | 96.5 | 101.1 | 104.8 |
| Automotive repair shops | 753 | 109.4 | 91.7 | 99.4 | 96.2 | 105.7 | 108.1 | 106.9 | 98.7 | 103.3 | 102.9 | 110.4 | 116.4 |

n.e.s. = not elsewhere specified.
n.e.c. = not elsewhere classified.
– Data not available.

## 42. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

| Country | Annual average | | 1995 | | 1996 | | | | 1997 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1995 | 1996 | III | IV | I | II | III | IV | I | II |
| United States | 5.6 | 5.4 | 5.7 | 5.6 | 5.6 | 5.4 | 5.3 | 5.3 | 5.3 | 4.9 |
| Canada | 9.5 | 9.7 | 9.5 | 9.4 | 9.5 | 9.6 | 9.7 | 9.9 | 9.6 | 9.4 |
| Australia | 8.5 | 8.6 | 8.4 | 8.4 | 8.5 | 8.6 | 8.7 | 8.6 | 8.7 | 8.7 |
| Japan | 3.2 | 3.4 | 3.2 | 3.4 | 3.3 | 3.5 | 3.4 | 3.3 | 3.3 | 3.5 |
| France | 11.5 | 12.6 | 11.5 | 11.7 | 12.2 | 12.5 | 12.7 | 12.8 | 12.7 | 12.7 |
| Germany | 6.5 | – | 6.6 | 6.7 | 7.0 | 7.1 | 7.2 | 7.5 | 7.7 | 7.8 |
| Italy[1] | 12.0 | 12.1 | 11.9 | 11.9 | 12.0 | 12.5 | 11.9 | 12.0 | 12.3 | 12.7 |
| Sweden | 9.1 | 9.9 | 8.9 | 9.3 | 9.0 | 9.4 | 9.5 | 10.3 | 10.6 | 10.6 |
| United Kingdom | 8.8 | – | 8.8 | 8.6 | 8.4 | 8.4 | 8.1 | 8.0 | 7.6 | 7.3 |

[1] Quarterly rates are for the first month of the quarter.

– Data not available.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Labor Force Statistics, 10 Countries* (Bureau of Labor Statistics, August 1996).

## 43. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

| Employment status and country | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Civilian labor force** | | | | | | | | | | |
| United States[1] | 119,865 | 121,669 | 123,869 | 125,840 | 126,346 | 128,105 | 129,200 | 131,056 | 132,304 | 133,943 |
| Canada | 13,631 | 13,900 | 14,151 | 14,329 | 14,408 | 14,482 | 14,663 | 14,832 | 14,928 | 15,145 |
| Australia | 7,758 | 7,974 | 8,228 | 8,444 | 8,490 | 8,562 | 8,619 | 8,776 | 9,001 | 9,127 |
| Japan | 60,050 | 60,860 | 61,920 | 63,050 | 64,280 | 65,040 | 65,470 | 65,780 | 65,990 | 66,450 |
| France | 23,890 | 23,980 | 24,170 | 24,300 | 24,490 | 24,570 | 24,640 | 24,760 | 24,860 | 25,070 |
| Germany | 28,390 | 28,610 | 28,840 | 29,410 | 29,760 | 30,030 | 29,950 | 29,820 | 29,660 | – |
| Italy | 22,350 | 22,660 | 22,530 | 22,670 | 22,940 | 22,910 | 22,760 | 22,640 | 22,700 | 22,820 |
| Netherlands | 6,500 | 6,330 | 6,450 | 6,660 | 6,770 | 6,970 | 7,110 | 7,180 | 7,290 | – |
| Sweden | 4,437 | 4,494 | 4,552 | 4,597 | 4,591 | 4,520 | 4,443 | 4,418 | 4,460 | 4,459 |
| United Kingdom | 27,720 | 28,150 | 28,420 | 28,540 | 28,450 | 28,400 | 28,310 | 28,310 | 28,190 | – |
| **Participation rate[2]** | | | | | | | | | | |
| United States[1] | 65.6 | 65.9 | 66.5 | 66.5 | 66.2 | 66.4 | 66.3 | 66.6 | 66.6 | 66.8 |
| Canada | 66.7 | 67.2 | 67.5 | 67.3 | 66.7 | 65.9 | 65.5 | 65.3 | 64.8 | 64.9 |
| Australia | 63.0 | 63.3 | 64.0 | 64.6 | 64.1 | 63.9 | 63.6 | 63.9 | 64.6 | 64.6 |
| Japan | 61.9 | 61.9 | 62.2 | 62.6 | 63.2 | 63.4 | 63.3 | 63.1 | 62.9 | 63.0 |
| France | 56.5 | 56.2 | 56.1 | 56.0 | 56.0 | 55.8 | 55.6 | 55.5 | 55.3 | 55.4 |
| Germany | 55.0 | 55.1 | 55.2 | 55.3 | 55.4 | 55.1 | 54.2 | 53.7 | 53.1 | – |
| Italy | 47.6 | 47.4 | 47.3 | 47.2 | 47.7 | 47.5 | 48.1 | 47.5 | 47.6 | 47.7 |
| Netherlands | 56.3 | 54.3 | 54.9 | 56.3 | 56.7 | 57.9 | 58.6 | 58.9 | 59.7 | – |
| Sweden | 66.4 | 66.9 | 67.3 | 67.4 | 67.0 | 65.7 | 64.5 | 63.9 | 64.3 | 64.3 |
| United Kingdom | 62.5 | 63.2 | 63.6 | 63.7 | 63.3 | 62.9 | 62.8 | 62.6 | 62.2 | – |
| **Employed** | | | | | | | | | | |
| United States[1] | 112,440 | 114,968 | 117,342 | 118,793 | 117,718 | 118,492 | 120,259 | 123,060 | 124,900 | 126,708 |
| Canada | 12,422 | 12,819 | 13,086 | 13,165 | 12,916 | 12,842 | 13,015 | 13,292 | 13,506 | 13,676 |
| Australia | 7,129 | 7,398 | 7,720 | 7,859 | 7,676 | 7,637 | 7,680 | 7,921 | 8,235 | 8,344 |
| Japan | 58,320 | 59,310 | 60,500 | 61,710 | 62,920 | 63,620 | 63,810 | 63,860 | 63,890 | 64,200 |
| France | 21,320 | 21,520 | 21,850 | 22,100 | 22,140 | 22,010 | 21,730 | 21,710 | 21,940 | 21,920 |
| Germany | 26,590 | 26,800 | 27,200 | 27,950 | 28,480 | 28,660 | 28,230 | 27,880 | 27,720 | – |
| Italy | 20,590 | 20,870 | 20,770 | 21,080 | 21,360 | 21,230 | 20,430 | 20,080 | 19,970 | 20,050 |
| Netherlands | 5,850 | 5,850 | 5,990 | 6,250 | 6,370 | 6,570 | 6,640 | 6,650 | 6,760 | – |
| Sweden | 4,340 | 4,410 | 4,480 | 4,513 | 4,447 | 4,265 | 4,028 | 3,992 | 4,056 | 4,019 |
| United Kingdom | 24,860 | 25,730 | 26,350 | 26,550 | 25,930 | 25,520 | 25,340 | 25,580 | 25,710 | – |
| **Employment-population ratio[3]** | | | | | | | | | | |
| United States[1] | 61.5 | 62.3 | 63.0 | 62.8 | 61.7 | 61.5 | 61.7 | 62.5 | 62.9 | 63.2 |
| Canada | 60.8 | 62.0 | 62.4 | 61.9 | 59.8 | 58.4 | 58.2 | 58.5 | 58.6 | 58.6 |
| Australia | 57.9 | 58.7 | 60.1 | 60.1 | 57.9 | 57.0 | 56.6 | 57.7 | 59.1 | 59.1 |
| Japan | 60.1 | 60.4 | 60.8 | 61.3 | 61.8 | 62.0 | 61.7 | 61.3 | 60.9 | 60.9 |
| France | 50.4 | 50.4 | 50.7 | 50.9 | 50.6 | 50.0 | 49.0 | 48.7 | 48.8 | 48.5 |
| Germany | 51.5 | 51.6 | 52.0 | 52.6 | 53.0 | 52.6 | 51.1 | 50.2 | 49.7 | – |
| Italy | 43.8 | 43.7 | 43.6 | 43.9 | 44.5 | 44.0 | 43.1 | 42.1 | 41.8 | 41.9 |
| Netherlands | 50.7 | 50.2 | 51.0 | 52.8 | 53.3 | 54.6 | 54.8 | 54.6 | 55.4 | – |
| Sweden | 65.0 | 65.7 | 66.2 | 66.1 | 64.9 | 62.0 | 58.5 | 57.6 | 58.4 | 57.9 |
| United Kingdom | 56.1 | 57.8 | 59.0 | 59.2 | 57.7 | 56.5 | 56.2 | 56.5 | 56.7 | – |
| **Unemployed** | | | | | | | | | | |
| United States[1] | 7,425 | 6,701 | 6,528 | 7,047 | 8,628 | 9,613 | 8,940 | 7,996 | 7,404 | 7,236 |
| Canada | 1,208 | 1,082 | 1,065 | 1,164 | 1,492 | 1,640 | 1,649 | 1,541 | 1,422 | 1,469 |
| Australia | 629 | 576 | 508 | 585 | 814 | 925 | 939 | 856 | 766 | 783 |
| Japan | 1,730 | 1,550 | 1,420 | 1,340 | 1,360 | 1,420 | 1,660 | 1,920 | 2,100 | 2,250 |
| France | 2,570 | 2,460 | 2,320 | 2,200 | 2,350 | 2,560 | 2,910 | 3,050 | 2,920 | 3,150 |
| Germany | 1,800 | 1,810 | 1,640 | 1,460 | 1,280 | 1,370 | 1,720 | 1,940 | 1,940 | – |
| Italy | 1,760 | 1,790 | 1,760 | 1,590 | 1,580 | 1,680 | 2,330 | 2,560 | 2,720 | 2,760 |
| Netherlands | 650 | 480 | 450 | 410 | 400 | 390 | 470 | 520 | 530 | – |
| Sweden | 97 | 84 | 72 | 84 | 144 | 255 | 415 | 426 | 404 | 440 |
| United Kingdom | 2,860 | 2,420 | 2,070 | 1,990 | 2,520 | 2,880 | 2,970 | 2,730 | 2,480 | – |
| **Unemployment rate** | | | | | | | | | | |
| United States[1] | 6.2 | 5.5 | 5.3 | 5.6 | 6.8 | 7.5 | 6.9 | 6.1 | 5.6 | 5.4 |
| Canada | 8.9 | 7.8 | 7.5 | 8.1 | 10.4 | 11.3 | 11.2 | 10.4 | 9.5 | 9.7 |
| Australia | 8.1 | 7.2 | 6.2 | 6.9 | 9.6 | 10.8 | 10.9 | 9.7 | 8.5 | 8.6 |
| Japan | 2.9 | 2.5 | 2.3 | 2.1 | 2.1 | 2.2 | 2.5 | 2.9 | 3.2 | 3.4 |
| France | 10.8 | 10.3 | 9.6 | 9.1 | 9.6 | 10.4 | 11.8 | 12.3 | 11.8 | 12.6 |
| Germany | 6.3 | 6.3 | 5.7 | 5.0 | 4.3 | 4.6 | 5.7 | 6.5 | 6.5 | – |
| Italy | 7.9 | 7.9 | 7.8 | 7.0 | 6.9 | 7.3 | 10.2 | 11.3 | 12.0 | 12.1 |
| Netherlands | 10.0 | 7.6 | 7.0 | 6.2 | 5.9 | 5.6 | 6.6 | 7.2 | 7.3 | – |
| Sweden | 2.2 | 1.9 | 1.6 | 1.8 | 3.1 | 5.6 | 9.3 | 9.6 | 9.1 | 9.9 |
| United Kingdom | 10.3 | 8.6 | 7.3 | 7.0 | 8.9 | 10.1 | 10.5 | 9.6 | 8.8 | – |

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Labor force as a percent of the working-age population.

[3] Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for the United States, France, Italy, the Netherlands, and Sweden. Dash indicates data not available.

## 44. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

| Item and country | 1960 | 1970 | 1973 | 1980 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Output per hour** | | | | | | | | | | | | | | |
| United States | – | – | – | 71.9 | 88.2 | 94.3 | 97.8 | 97.0 | 97.7 | 98.2 | 101.6 | 105.8 | 109.2 | 112.7 |
| Canada | 40.5 | 60.4 | 72.2 | 78.5 | 92.6 | 93.5 | 93.9 | 94.3 | 95.8 | 96.3 | 101.7 | 106.2 | 107.5 | 108.6 |
| Japan | 14.0 | 38.0 | 48.1 | 63.9 | 76.9 | 81.2 | 84.8 | 89.5 | 95.4 | 99.4 | 100.5 | 101.8 | 109.2 | 114.1 |
| Belgium | 17.8 | 32.7 | 42.6 | 64.5 | 87.6 | 88.7 | 91.7 | 96.7 | 96.9 | 99.1 | 104.1 | 110.0 | 109.3 | – |
| Denmark | 29.5 | 52.1 | 66.1 | 89.2 | 90.0 | 89.6 | 92.9 | 96.1 | 96.0 | 97.9 | 106.8 | – | – | – |
| France | 23.0 | 45.5 | 53.9 | 70.5 | 85.2 | 86.7 | 92.7 | 97.4 | 99.1 | 98.7 | 101.8 | 110.4 | 114.5 | 117.0 |
| Germany | 29.2 | 52.1 | 61.1 | 77.3 | 89.5 | 88.4 | 91.6 | 94.4 | 99.0 | 102.0 | 100.4 | 108.0 | 111.1 | 115.7 |
| Italy | 19.6 | 36.8 | 43.9 | 64.0 | 82.6 | 85.0 | 86.6 | 89.4 | 92.8 | 95.3 | 104.5 | 107.4 | 110.7 | 113.3 |
| Netherlands | 19.6 | 38.6 | 48.9 | 70.0 | 91.2 | 91.9 | 93.9 | 97.3 | 98.6 | 99.6 | 102.1 | 112.1 | 115.9 | – |
| Norway | 36.7 | 57.8 | 67.6 | 76.7 | 89.0 | 93.3 | 92.1 | 94.6 | 96.6 | 97.5 | 100.6 | 101.4 | 102.5 | 103.3 |
| Sweden | 27.6 | 52.8 | 62.1 | 74.0 | 88.5 | 90.1 | 90.8 | 93.8 | 95.0 | 95.0 | 106.7 | 116.1 | 122.0 | 124.8 |
| United Kingdom | 30.5 | 43.7 | 51.9 | 54.9 | 74.7 | 78.8 | 83.1 | 87.1 | 90.1 | 94.4 | 105.6 | 108.7 | 107.7 | 107.5 |
| **Output** | | | | | | | | | | | | | | |
| United States | – | – | – | 77.4 | 91.0 | 97.9 | 104.4 | 104.0 | 102.5 | 98.8 | 103.0 | 109.8 | 113.6 | 116.7 |
| Canada | 34.2 | 61.0 | 77.6 | 85.9 | 99.3 | 104.1 | 109.4 | 110.3 | 106.2 | 98.7 | 104.8 | 112.8 | 117.1 | 118.6 |
| Japan | 10.7 | 38.8 | 50.0 | 59.9 | 74.9 | 78.4 | 84.6 | 90.2 | 96.3 | 101.4 | 96.0 | 95.4 | 100.5 | 105.0 |
| Belgium | 30.7 | 57.5 | 70.6 | 78.2 | 89.0 | 88.7 | 93.1 | 98.9 | 101.0 | 100.7 | 96.9 | 101.4 | 104.4 | – |
| Denmark | 40.1 | 66.8 | 78.1 | 89.7 | 101.7 | 97.6 | 99.1 | 100.3 | 99.3 | 99.2 | 101.1 | 103.0 | 105.9 | 105.6 |
| France | 32.4 | 66.9 | 80.1 | 92.7 | 91.2 | 91.1 | 96.3 | 101.6 | 103.5 | 101.7 | 96.2 | 101.3 | 105.4 | 106.2 |
| Germany | 41.5 | 70.9 | 78.5 | 85.3 | 89.7 | 88.0 | 90.9 | 94.0 | 99.1 | 102.8 | 91.5 | 93.1 | 93.4 | 92.9 |
| Italy | 21.5 | 44.8 | 54.1 | 78.7 | 84.8 | 88.5 | 94.8 | 98.6 | 100.4 | 99.7 | 96.6 | 101.9 | 107.7 | 106.8 |
| Netherlands | 31.8 | 59.7 | 67.9 | 77.6 | 88.1 | 89.3 | 92.7 | 96.9 | 100.1 | 100.6 | 98.3 | 103.3 | 105.8 | – |
| Norway | 56.6 | 89.1 | 102.2 | 103.6 | 108.1 | 110.7 | 105.3 | 101.3 | 100.2 | 98.3 | 102.7 | 106.7 | 109.9 | 112.9 |
| Sweden | 46.5 | 81.7 | 88.5 | 91.8 | 105.2 | 107.7 | 110.2 | 111.6 | 110.6 | 103.6 | 101.3 | 115.7 | 127.0 | 129.8 |
| United Kingdom | 68.4 | 91.2 | 100.6 | 88.1 | 91.1 | 95.3 | 102.0 | 106.6 | 106.4 | 100.6 | 101.4 | 105.6 | 108.0 | 108.5 |
| **Total hours** | | | | | | | | | | | | | | |
| United States | 92.2 | 104.5 | 110.5 | 107.6 | 103.1 | 103.9 | 106.8 | 107.2 | 104.9 | 100.6 | 101.4 | 103.8 | 104.1 | 103.5 |
| Canada | 84.5 | 100.9 | 107.5 | 109.5 | 107.2 | 111.4 | 116.5 | 117.0 | 110.8 | 102.5 | 103.0 | 106.2 | 108.9 | 109.1 |
| Japan | 76.3 | 102.3 | 104.0 | 93.8 | 97.3 | 96.6 | 99.8 | 100.8 | 100.9 | 102.0 | 95.6 | 93.7 | 92.0 | 92.0 |
| Belgium | 172.1 | 176.3 | 165.6 | 121.4 | 101.6 | 100.0 | 101.5 | 102.3 | 104.3 | 101.6 | 93.2 | 92.2 | 95.6 | – |
| Denmark | 135.8 | 128.3 | 118.1 | 100.6 | 113.1 | 109.0 | 106.6 | 104.3 | 103.3 | 101.3 | 94.7 | – | – | – |
| France | 140.6 | 147.0 | 148.7 | 131.5 | 107.2 | 105.1 | 104.0 | 104.4 | 104.5 | 103.0 | 94.5 | 91.8 | 92.0 | 90.8 |
| Germany | 142.4 | 136.1 | 128.4 | 110.3 | 100.1 | 99.6 | 99.2 | 99.5 | 100.1 | 100.8 | 91.1 | 86.2 | 84.0 | 80.3 |
| Italy | 109.6 | 121.8 | 123.4 | 123.0 | 102.7 | 104.1 | 109.5 | 110.2 | 108.2 | 104.6 | 92.4 | 94.8 | 97.2 | 94.3 |
| Netherlands | 162.7 | 154.5 | 138.7 | 111.0 | 96.6 | 97.2 | 98.7 | 99.6 | 101.6 | 101.0 | 96.3 | 92.2 | 91.3 | – |
| Norway | 154.0 | 154.3 | 151.2 | 135.0 | 121.6 | 118.6 | 114.3 | 107.1 | 103.7 | 100.8 | 102.1 | 105.2 | 107.2 | 109.3 |
| Sweden | 168.3 | 154.7 | 142.5 | 124.0 | 118.9 | 119.5 | 121.4 | 119.0 | 116.4 | 109.0 | 94.9 | 99.6 | 104.1 | 104.0 |
| United Kingdom | 224.4 | 208.6 | 194.0 | 160.3 | 121.9 | 120.9 | 122.7 | 122.3 | 118.0 | 106.6 | 96.0 | 97.2 | 100.3 | 100.9 |
| **Compensation per hour** | | | | | | | | | | | | | | |
| United States | 14.9 | 23.8 | 28.6 | 55.8 | 78.6 | 80.8 | 84.0 | 86.8 | 91.0 | 95.7 | 102.4 | 105.1 | 108.8 | 112.0 |
| Canada | 10.5 | 18.3 | 22.9 | 50.2 | 77.5 | 79.8 | 83.3 | 86.4 | 91.3 | 97.1 | 100.1 | 102.1 | 103.9 | 108.5 |
| Japan | 4.3 | 16.5 | 26.8 | 58.6 | 76.1 | 77.9 | 79.2 | 84.2 | 90.7 | 95.9 | 104.6 | 106.7 | 110.0 | 111.6 |
| Belgium | 5.5 | 14.1 | 21.6 | 52.5 | 77.2 | 79.0 | 80.6 | 84.8 | 89.6 | 95.3 | 105.0 | 108.4 | 111.7 | – |
| Denmark | 4.6 | 13.2 | 20.4 | 49.4 | 72.9 | 79.7 | 82.5 | 87.2 | 92.6 | 96.2 | 102.4 | – | – | – |
| France | 4.3 | 10.5 | 14.9 | 41.3 | 76.8 | 79.7 | 82.7 | 87.2 | 91.8 | 96.3 | 103.6 | 106.2 | 107.7 | 110.0 |
| Germany | 8.1 | 20.8 | 29.1 | 53.8 | 73.1 | 76.6 | 79.6 | 83.4 | 89.4 | 95.1 | 106.1 | 112.1 | 117.5 | 123.4 |
| Italy | 1.6 | 4.6 | 7.0 | 27.9 | 62.6 | 66.1 | 68.7 | 75.5 | 84.0 | 93.1 | 107.1 | 106.6 | 109.2 | 117.1 |
| Netherlands | 6.4 | 20.4 | 31.8 | 64.8 | 85.2 | 87.9 | 87.6 | 88.4 | 90.8 | 95.2 | 103.8 | 107.1 | 109.9 | – |
| Norway | 4.7 | 11.8 | 17.0 | 39.0 | 69.1 | 78.5 | 83.3 | 87.2 | 92.3 | 97.5 | 101.5 | 104.4 | 109.2 | 114.0 |
| Sweden | 4.1 | 10.8 | 15.2 | 37.4 | 63.1 | 67.3 | 71.7 | 79.4 | 87.6 | 95.4 | 98.0 | 101.1 | 107.4 | 114.3 |
| United Kingdom | 3.1 | 6.5 | 9.7 | 33.9 | 59.7 | 66.3 | 70.6 | 75.2 | 83.5 | 93.1 | 106.6 | 109.9 | 110.8 | 115.0 |
| **Unit labor costs:** National currency basis | | | | | | | | | | | | | | |
| United States | – | – | – | 77.6 | 89.1 | 85.7 | 85.9 | 89.4 | 93.1 | 97.5 | 100.8 | 99.4 | 99.7 | 99.3 |
| Canada | 25.9 | 30.3 | 31.8 | 63.9 | 83.6 | 85.3 | 88.7 | 91.7 | 95.2 | 100.9 | 98.4 | 96.1 | 96.7 | 99.9 |
| Japan | 30.9 | 43.3 | 55.7 | 91.7 | 99.0 | 96.0 | 93.4 | 94.0 | 95.0 | 96.5 | 104.1 | 104.9 | 100.7 | 97.8 |
| Belgium | 31.1 | 43.1 | 50.6 | 81.4 | 88.1 | 89.1 | 87.9 | 87.8 | 92.5 | 96.1 | 100.9 | 98.6 | 102.2 | – |
| Denmark | 15.5 | 25.3 | 30.8 | 55.3 | 81.0 | 89.0 | 88.8 | 90.7 | 96.5 | 98.3 | 95.9 | 97.9 | 102.2 | 104.9 |
| France | 18.7 | 23.0 | 27.6 | 58.6 | 90.2 | 92.0 | 89.3 | 89.5 | 92.6 | 97.6 | 101.8 | 96.2 | 94.0 | 94.0 |
| Germany | 28.0 | 39.9 | 47.6 | 69.6 | 81.6 | 86.7 | 86.9 | 88.3 | 90.3 | 93.2 | 105.6 | 103.9 | 105.7 | 106.6 |
| Italy | 8.0 | 12.6 | 16.0 | 43.7 | 75.8 | 77.8 | 79.4 | 84.4 | 90.5 | 97.7 | 102.5 | 99.2 | 98.6 | 103.3 |
| Netherlands | 32.9 | 52.7 | 65.0 | 92.6 | 93.4 | 95.7 | 93.3 | 90.8 | 92.1 | 95.5 | 101.7 | 95.5 | 94.9 | – |
| Norway | 12.9 | 20.4 | 25.1 | 50.8 | 77.7 | 84.1 | 90.4 | 92.2 | 95.6 | 100.0 | 100.9 | 102.9 | 106.5 | 110.3 |
| Sweden | 14.9 | 20.5 | 24.4 | 50.6 | 71.3 | 74.7 | 79.0 | 84.7 | 92.3 | 100.4 | 91.8 | 87.0 | 88.0 | 91.6 |
| United Kingdom | 10.3 | 14.8 | 18.7 | 61.7 | 79.9 | 84.1 | 84.9 | 86.3 | 92.6 | 98.6 | 101.0 | 101.1 | 102.9 | 107.0 |
| **Unit labor costs:** U.S. dollar basis | | | | | | | | | | | | | | |
| United States | – | – | – | 77.6 | 89.1 | 85.7 | 85.9 | 89.4 | 93.1 | 97.5 | 100.8 | 99.4 | 99.7 | 99.3 |
| Canada | 32.3 | 35.1 | 38.4 | 66.1 | 72.7 | 77.8 | 87.1 | 93.6 | 98.6 | 106.4 | 92.1 | 85.0 | 85.2 | 88.5 |
| Japan | 10.9 | 15.3 | 26.1 | 51.5 | 74.5 | 84.2 | 92.4 | 86.3 | 83.1 | 90.9 | 118.8 | 130.1 | 135.9 | 114.0 |
| Belgium | 20.0 | 27.9 | 41.9 | 89.6 | 63.4 | 76.7 | 76.8 | 71.6 | 88.9 | 90.4 | 93.8 | 94.8 | 111.5 | – |
| Denmark | 13.5 | 20.4 | 30.9 | 59.4 | 60.4 | 78.4 | 79.5 | 74.8 | 94.1 | 92.7 | 89.2 | 93.0 | 110.2 | 109.1 |
| France | 20.2 | 22.0 | 32.9 | 73.5 | 69.0 | 81.0 | 79.3 | 74.3 | 90.0 | 91.5 | 95.1 | 91.8 | 99.8 | 97.3 |
| Germany | 10.5 | 17.1 | 28.1 | 59.9 | 58.7 | 75.3 | 77.2 | 73.3 | 87.2 | 87.7 | 99.7 | 100.0 | 115.3 | 110.7 |
| Italy | 15.9 | 24.7 | 34.0 | 62.9 | 62.6 | 73.9 | 75.1 | 75.8 | 93.0 | 97.0 | 80.3 | 75.8 | 74.6 | 82.5 |
| Netherlands | 15.4 | 25.6 | 41.1 | 82.0 | 67.1 | 83.0 | 83.0 | 75.3 | 88.9 | 89.8 | 96.2 | 92.4 | 104.0 | – |
| Norway | 11.3 | 17.8 | 27.2 | 63.9 | 65.3 | 77.5 | 86.1 | 82.9 | 95.0 | 95.7 | 88.3 | 90.7 | 104.5 | 106.1 |
| Sweden | 16.8 | 23.0 | 32.7 | 69.6 | 58.3 | 68.5 | 75.0 | 76.4 | 90.8 | 96.6 | 68.6 | 65.7 | 71.8 | 79.6 |
| United Kingdom | 16.3 | 20.0 | 25.9 | 81.3 | 66.4 | 78.0 | 85.6 | 80.0 | 93.5 | 98.7 | 85.9 | 87.7 | 91.9 | 94.5 |

– Data not available.

## 45. Occupational injury and illness rates by industry,[1] United States

| Industry and type of case[2] | Incidence rates per 100 full-time workers[3] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989[1] | 1990 | 1991 | 1992 | 1993[4] | 1994[4] | 1995[4] |
| **PRIVATE SECTOR[5]** | | | | | | | | | | | |
| Total cases | 7.9 | 7.9 | 8.3 | 8.6 | 8.6 | 8.8 | 8.4 | 8.9 | 8.5 | 8.4 | 8.1 |
| Lost workday cases | 3.6 | 3.6 | 3.8 | 4.0 | 4.0 | 4.1 | 3.9 | 3.9 | 3.8 | 3.8 | 3.6 |
| Lost workdays | 64.9 | 65.8 | 69.9 | 76.1 | 78.7 | 84.0 | 86.5 | 93.8 | – | – | – |
| **Agriculture, forestry, and fishing[5]** | | | | | | | | | | | |
| Total cases | 11.4 | 11.2 | 11.2 | 10.9 | 10.9 | 11.6 | 10.8 | 11.6 | 11.2 | 10.0 | 9.7 |
| Lost workday cases | 5.7 | 5.6 | 5.7 | 5.6 | 5.7 | 5.9 | 5.4 | 5.4 | 5.0 | 4.7 | 4.3 |
| Lost workdays | 91.3 | 93.6 | 94.1 | 101.8 | 100.9 | 112.2 | 108.3 | 126.9 | – | – | – |
| **Mining** | | | | | | | | | | | |
| Total cases | 8.4 | 7.4 | 8.5 | 8.8 | 8.5 | 8.3 | 7.4 | 7.3 | 6.8 | 6.3 | 6.2 |
| Lost workday cases | 4.8 | 4.1 | 4.9 | 5.1 | 4.8 | 5.0 | 4.5 | 4.1 | 3.9 | 3.9 | 3.9 |
| Lost workdays | 145.3 | 125.9 | 144.0 | 152.1 | 137.2 | 119.5 | 129.6 | 204.7 | – | – | – |
| **Construction** | | | | | | | | | | | |
| Total cases | 15.2 | 15.2 | 14.7 | 14.6 | 14.3 | 14.2 | 13.0 | 13.1 | 12.2 | 11.8 | 10.6 |
| Lost workday cases | 6.8 | 6.9 | 6.8 | 6.8 | 6.8 | 6.7 | 6.1 | 5.8 | 5.5 | 5.5 | 4.9 |
| Lost workdays | 128.9 | 134.5 | 135.8 | 142.2 | 143.3 | 147.9 | 148.1 | 161.9 | – | – | – |
| General building contractors: | | | | | | | | | | | |
| Total cases | 15.2 | 14.9 | 14.2 | 14.0 | 13.9 | 13.4 | 12.0 | 12.2 | 11.5 | 10.9 | 9.8 |
| Lost workday cases | 6.8 | 6.6 | 6.5 | 6.4 | 6.5 | 6.4 | 5.5 | 5.4 | 5.1 | 5.1 | 4.4 |
| Lost workdays | 120.4 | 122.7 | 134.0 | 132.2 | 137.3 | 137.6 | 132.0 | 142.7 | – | – | – |
| Heavy construction, except building: | | | | | | | | | | | |
| Total cases | 14.5 | 14.7 | 14.5 | 15.1 | 13.8 | 13.8 | 12.8 | 12.1 | 11.1 | 10.2 | 9.9 |
| Lost workday cases | 6.3 | 6.3 | 6.4 | 7.0 | 6.5 | 6.3 | 6.0 | 5.4 | 5.1 | 5.0 | 4.8 |
| Lost workdays | 127.3 | 132.9 | 139.1 | 162.3 | 147.1 | 144.6 | 160.1 | 165.8 | – | – | – |
| Special trades contractors: | | | | | | | | | | | |
| Total cases | 15.4 | 15.6 | 15.0 | 14.7 | 14.6 | 14.7 | 13.5 | 13.8 | 12.8 | 12.5 | 11.1 |
| Lost workday cases | 7.0 | 7.2 | 7.1 | 7.0 | 6.9 | 6.9 | 6.3 | 6.1 | 5.8 | 5.8 | 5.0 |
| Lost workdays | 133.3 | 140.4 | 135.7 | 141.1 | 144.9 | 153.1 | 151.3 | 168.3 | – | – | – |
| **Manufacturing** | | | | | | | | | | | |
| Total cases | 10.4 | 10.6 | 11.9 | 13.1 | 13.1 | 13.2 | 12.7 | 12.5 | 12.1 | 12.2 | 11.6 |
| Lost workday cases | 4.6 | 4.7 | 5.3 | 5.7 | 5.8 | 5.8 | 5.6 | 5.4 | 5.3 | 5.5 | 5.3 |
| Lost workdays | 80.2 | 85.2 | 95.5 | 107.4 | 113.0 | 120.7 | 121.5 | 124.6 | – | – | – |
| Durable goods: | | | | | | | | | | | |
| Total cases | 10.9 | 11.0 | 12.5 | 14.2 | 14.1 | 14.2 | 13.6 | 13.4 | 13.1 | 13.5 | 12.8 |
| Lost workday cases | 4.7 | 4.8 | 5.4 | 5.9 | 6.0 | 6.0 | 5.7 | 5.5 | 5.4 | 5.7 | 5.6 |
| Lost workdays | 82.0 | 87.1 | 96.8 | 111.1 | 116.5 | 123.3 | 122.9 | 126.7 | – | – | – |
| Lumber and wood products: | | | | | | | | | | | |
| Total cases | 18.5 | 18.9 | 18.9 | 19.5 | 18.4 | 18.1 | 16.8 | 16.3 | 15.9 | 15.7 | 14.9 |
| Lost workday cases | 9.3 | 9.7 | 9.6 | 10.0 | 9.4 | 8.8 | 8.3 | 7.6 | 7.6 | 7.7 | 7.0 |
| Lost workdays | 171.4 | 177.2 | 176.5 | 189.1 | 177.5 | 172.5 | 172.0 | 165.8 | – | – | – |
| Furniture and fixtures: | | | | | | | | | | | |
| Total cases | 15.0 | 15.2 | 15.4 | 16.6 | 16.1 | 16.9 | 15.9 | 14.8 | 14.6 | 15.0 | 13.9 |
| Lost workday cases | 6.3 | 6.3 | 6.7 | 7.3 | 7.2 | 7.8 | 7.2 | 6.6 | 6.5 | 7.0 | 6.4 |
| Lost workdays | 100.4 | 103.0 | 103.6 | 115.7 | – | – | – | 128.4 | – | – | – |
| Stone, clay, and glass products: | | | | | | | | | | | |
| Total cases | 13.9 | 13.6 | 14.9 | 16.0 | 15.5 | 15.4 | 14.8 | 13.6 | 13.8 | 13.2 | 12.3 |
| Lost workday cases | 6.7 | 6.5 | 7.1 | 7.5 | 7.4 | 7.3 | 6.8 | 6.1 | 6.3 | 6.5 | 5.7 |
| Lost workdays | 127.8 | 126.0 | 135.8 | 141.0 | 149.8 | 160.5 | 156.0 | 152.2 | – | – | – |
| Primary metal industries: | | | | | | | | | | | |
| Total cases | 12.6 | 13.6 | 17.0 | 19.4 | 18.7 | 19.0 | 17.7 | 17.5 | 17.0 | 16.8 | 16.5 |
| Lost workday cases | 5.7 | 6.1 | 7.4 | 8.2 | 8.1 | 8.1 | 7.4 | 7.1 | 7.3 | 7.2 | 7.2 |
| Lost workdays | 113.8 | 125.5 | 145.8 | 161.3 | 168.3 | 180.2 | 169.1 | 175.5 | – | – | – |
| Fabricated metal products: | | | | | | | | | | | |
| Total cases | 16.3 | 16.0 | 17.0 | 18.8 | 18.5 | 18.7 | 17.4 | 16.8 | 16.2 | 16.4 | 15.8 |
| Lost workday cases | 6.9 | 6.8 | 7.2 | 8.0 | 7.9 | 7.9 | 7.1 | 6.6 | 6.7 | 6.7 | 6.9 |
| Lost workdays | 110.1 | 115.5 | 121.9 | 138.8 | 147.6 | 155.7 | 146.6 | 144.0 | – | – | – |
| Industrial machinery and equipment: | | | | | | | | | | | |
| Total cases | 10.8 | 10.7 | 11.3 | 12.1 | 12.1 | 12.0 | 11.2 | 11.1 | 11.1 | 11.6 | 11.2 |
| Lost workday cases | 4.2 | 4.2 | 4.4 | 4.7 | 4.8 | 4.7 | 4.4 | 4.2 | 4.2 | 4.4 | 4.4 |
| Lost workdays | 69.3 | 72.0 | 72.7 | 82.8 | 86.8 | 88.9 | 86.6 | 87.7 | – | – | – |
| Electronic and other electrical equipment: | | | | | | | | | | | |
| Total cases | 6.4 | 6.4 | 7.2 | 8.0 | 9.1 | 9.1 | 8.6 | 8.4 | 8.3 | 8.3 | 7.6 |
| Lost workday cases | 2.7 | 2.7 | 3.1 | 3.3 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.6 | 3.3 |
| Lost workdays | 45.7 | 49.8 | 55.9 | 64.6 | 77.5 | 79.4 | 83.0 | 81.2 | – | – | – |
| Transportation equipment: | | | | | | | | | | | |
| Total cases | 9.0 | 9.6 | 13.5 | 17.7 | 17.7 | 17.8 | 18.3 | 18.7 | 18.5 | 19.6 | 18.6 |
| Lost workday cases | 3.9 | 4.1 | 5.7 | 6.6 | 6.8 | 6.9 | 7.0 | 7.1 | 7.1 | 7.8 | 7.9 |
| Lost workdays | 71.6 | 79.1 | 105.7 | 134.2 | 138.6 | 153.7 | 166.1 | 186.6 | – | – | – |
| Instruments and related products: | | | | | | | | | | | |
| Total cases | 5.2 | 5.3 | 5.8 | 6.1 | 5.6 | 5.9 | 6.0 | 5.9 | 5.6 | 5.9 | 5.3 |
| Lost workday cases | 2.2 | 2.3 | 2.4 | 2.6 | 2.5 | 2.7 | 2.7 | 2.7 | 2.5 | 2.7 | 2.4 |
| Lost workdays | 37.9 | 42.2 | 43.9 | 51.5 | 55.4 | 57.8 | 64.4 | 65.3 | – | – | – |
| Miscellaneous manufacturing industries: | | | | | | | | | | | |
| Total cases | 9.7 | 10.2 | 10.7 | 11.3 | 11.1 | 11.3 | 11.3 | 10.7 | 10.0 | 9.9 | 9.1 |
| Lost workday cases | 4.2 | 4.3 | 4.6 | 5.1 | 5.1 | 5.1 | 5.1 | 5.0 | 4.6 | 4.5 | 4.3 |
| Lost workdays | 73.2 | 70.9 | 81.5 | 91.0 | 97.6 | 113.1 | 104.0 | 108.2 | – | – | – |

See footnotes at end of table.

## 45. Continued—Occupational injury and illness rates by industry,[1] United States

| Industry and type of case[2] | Incidence rates per 100 full-time workers[3] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989[1] | 1990 | 1991 | 1992 | 1993[4] | 1994[4] | 1995[4] |
| Nondurable goods: | | | | | | | | | | | |
| Total cases | 9.6 | 10.0 | 11.1 | 11.4 | 11.6 | 11.7 | 11.5 | 11.3 | 10.7 | 10.5 | 9.9 |
| Lost workday cases | 4.4 | 4.6 | 5.1 | 5.4 | 5.5 | 5.6 | 5.5 | 5.3 | 5.0 | 5.1 | 4.9 |
| Lost workdays | 77.6 | 82.3 | 93.5 | 101.7 | 107.8 | 116.9 | 119.7 | 121.8 | – | – | – |
| Food and kindred products: | | | | | | | | | | | |
| Total cases | 16.7 | 16.5 | 17.7 | 18.5 | 18.5 | 20.0 | 19.5 | 18.8 | 17.6 | 17.1 | 16.3 |
| Lost workday cases | 8.1 | 8.0 | 8.6 | 9.2 | 9.3 | 9.9 | 9.9 | 9.5 | 8.9 | 9.2 | 8.7 |
| Lost workdays | 138.0 | 137.8 | 153.7 | 169.7 | 174.7 | 202.6 | 207.2 | 211.9 | – | – | – |
| Tobacco products: | | | | | | | | | | | |
| Total cases | 7.3 | 6.7 | 8.6 | 9.3 | 8.7 | 7.7 | 6.4 | 6.0 | 5.8 | 5.3 | 5.6 |
| Lost workday cases | 3.0 | 2.5 | 2.5 | 2.9 | 3.4 | 3.2 | 2.8 | 2.4 | 2.3 | 2.4 | 2.6 |
| Lost workdays | 51.7 | 45.6 | 46.4 | 53.0 | 64.2 | 62.3 | 52.0 | 42.9 | – | – | – |
| Textile mill: | | | | | | | | | | | |
| Total cases | 7.5 | 7.8 | 9.0 | 9.6 | 10.3 | 9.6 | 10.1 | 9.9 | 9.7 | 8.7 | 8.2 |
| Lost workday cases | 3.0 | 3.1 | 3.6 | 4.0 | 4.2 | 4.0 | 4.4 | 4.2 | 4.1 | 4.0 | 4.1 |
| Lost workdays | 57.4 | 59.3 | 65.9 | 78.8 | 81.4 | 85.1 | 88.3 | 87.1 | – | – | – |
| Apparel and other textile products: | | | | | | | | | | | |
| Total cases | 6.7 | 6.7 | 7.4 | 8.1 | 8.6 | 8.8 | 9.2 | 9.5 | 9.0 | 8.9 | 8.2 |
| Lost workday cases | 2.6 | 2.7 | 3.1 | 3.5 | 3.8 | 3.9 | 4.2 | 4.0 | 3.8 | 3.9 | 3.6 |
| Lost workdays | 44.1 | 49.4 | 59.5 | 68.2 | 80.5 | 92.1 | 99.9 | 104.6 | – | – | – |
| Paper and allied products: | | | | | | | | | | | |
| Total cases | 10.2 | 10.5 | 12.8 | 13.1 | 12.7 | 12.1 | 11.2 | 11.0 | 9.9 | 9.6 | 8.5 |
| Lost workday cases | 4.7 | 4.7 | 5.8 | 5.9 | 5.8 | 5.5 | 5.0 | 5.0 | 4.6 | 4.5 | 4.2 |
| Lost workdays | 94.6 | 99.5 | 122.3 | 124.3 | 132.9 | 124.8 | 122.7 | 125.9 | – | – | – |
| Printing and publishing: | | | | | | | | | | | |
| Total cases | 6.3 | 6.5 | 6.7 | 6.6 | 6.9 | 6.9 | 6.7 | 7.3 | 6.9 | 6.7 | 6.4 |
| Lost workday cases | 2.9 | 2.9 | 3.1 | 3.2 | 3.3 | 3.3 | 3.2 | 3.2 | 3.1 | 3.0 | 3.0 |
| Lost workdays | 49.2 | 50.8 | 55.1 | 59.8 | 63.8 | 69.8 | 74.5 | 74.8 | – | – | – |
| Chemicals and allied products: | | | | | | | | | | | |
| Total cases | 5.1 | 6.3 | 7.0 | 7.0 | 7.0 | 6.5 | 6.4 | 6.0 | 5.9 | 5.7 | 5.5 |
| Lost workday cases | 2.3 | 2.7 | 3.1 | 3.3 | 3.2 | 3.1 | 3.1 | 2.8 | 2.7 | 2.8 | 2.7 |
| Lost workdays | 38.8 | 49.4 | 58.8 | 59.0 | 63.4 | 61.6 | 62.4 | 64.2 | – | – | – |
| Petroleum and coal products: | | | | | | | | | | | |
| Total cases | 5.1 | 7.1 | 7.3 | 7.0 | 6.6 | 6.6 | 6.2 | 5.9 | 5.2 | 4.7 | 4.8 |
| Lost workday cases | 2.4 | 3.2 | 3.1 | 3.2 | 3.3 | 3.1 | 2.9 | 2.8 | 2.5 | 2.3 | 2.4 |
| Lost workdays | 49.9 | 67.5 | 65.9 | 68.4 | 68.1 | 77.3 | 68.2 | 71.2 | – | – | – |
| Rubber and miscellaneous plastics products: | | | | | | | | | | | |
| Total cases | 13.4 | 14.0 | 15.9 | 16.3 | 16.2 | 16.2 | 15.1 | 14.5 | 13.9 | 14.0 | 12.9 |
| Lost workday cases | 6.3 | 6.6 | 7.6 | 8.1 | 8.0 | 7.8 | 7.2 | 6.8 | 6.5 | 6.7 | 6.5 |
| Lost workdays | 107.4 | 118.2 | 130.8 | 142.9 | 147.2 | 151.3 | 150.9 | 153.3 | – | – | – |
| Leather and leather products: | | | | | | | | | | | |
| Total cases | 10.3 | 10.5 | 12.4 | 11.4 | 13.6 | 12.1 | 12.5 | 12.1 | 12.1 | 12.0 | 11.4 |
| Lost workday cases | 4.6 | 4.8 | 5.8 | 5.6 | 6.5 | 5.9 | 5.9 | 5.4 | 5.5 | 5.3 | 4.8 |
| Lost workdays | 88.3 | 83.4 | 114.5 | 128.2 | 130.4 | 152.3 | 140.8 | 128.5 | – | – | – |
| **Transportation and public utilities** | | | | | | | | | | | |
| Total cases | 8.6 | 8.2 | 8.4 | 8.9 | 9.2 | 9.6 | 9.3 | 9.1 | 9.5 | 9.3 | 9.1 |
| Lost workday cases | 5.0 | 4.8 | 4.9 | 5.1 | 5.3 | 5.5 | 5.4 | 5.1 | 5.4 | 5.5 | 5.2 |
| Lost workdays | 107.1 | 102.1 | 108.1 | 118.6 | 121.5 | 134.1 | 140.0 | 144.0 | – | – | – |
| **Wholesale and retail trade** | | | | | | | | | | | |
| Total cases | 7.4 | 7.7 | 7.7 | 7.8 | 8.0 | 7.9 | 7.6 | 8.4 | 8.1 | 7.9 | 7.5 |
| Lost workday cases | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.5 | 3.4 | 3.5 | 3.4 | 3.4 | 3.2 |
| Lost workdays | 50.7 | 54.0 | 56.1 | 60.9 | 63.5 | 65.6 | 72.0 | 80.1 | – | – | – |
| Wholesale trade: | | | | | | | | | | | |
| Total cases | 7.2 | 7.2 | 7.4 | 7.6 | 7.7 | 7.4 | 7.2 | 7.6 | 7.8 | 7.7 | 7.5 |
| Lost workday cases | 3.5 | 3.6 | 3.7 | 3.8 | 4.0 | 3.7 | 3.7 | 3.6 | 3.7 | 3.8 | 3.6 |
| Lost workdays | 59.8 | 62.5 | 64.0 | 69.2 | 71.9 | 71.5 | 79.2 | 82.4 | – | – | – |
| Retail trade: | | | | | | | | | | | |
| Total cases | 7.5 | 7.8 | 7.8 | 7.9 | 8.1 | 8.1 | 7.7 | 8.7 | 8.2 | 7.9 | 7.5 |
| Lost workday cases | 3.1 | 3.2 | 3.3 | 3.4 | 3.4 | 3.4 | 3.3 | 3.4 | 3.3 | 3.3 | 3.0 |
| Lost workdays | 47.0 | 50.5 | 52.9 | 57.6 | 60.0 | 63.2 | 69.1 | 79.2 | – | – | – |
| **Finance, insurance, and real estate** | | | | | | | | | | | |
| Total cases | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.4 | 2.4 | 2.9 | 2.9 | 2.7 | 2.6 |
| Lost workday cases | .9 | .9 | .9 | .9 | .9 | 1.1 | 1.1 | 1.2 | 1.2 | 1.1 | 1.0 |
| Lost workdays | 15.4 | 17.1 | 14.3 | 17.2 | 17.6 | 27.3 | 24.1 | 32.9 | – | – | – |
| **Services** | | | | | | | | | | | |
| Total cases | 5.4 | 5.3 | 5.5 | 5.4 | 5.5 | 6.0 | 6.2 | 7.1 | 6.7 | 6.5 | 6.4 |
| Lost workday cases | 2.6 | 2.5 | 2.7 | 2.6 | 2.7 | 2.8 | 2.8 | 3.0 | 2.8 | 2.8 | 2.8 |
| Lost workdays | 45.4 | 43.0 | 45.8 | 47.7 | 51.2 | 56.4 | 60.0 | 68.6 | – | – | – |

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays;
EH = total hours worked by all employees during the calendar year; and
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

## 46. Fatal occupational injuries by event or exposure, 1992–95

| Event or exposure[1] | Fatalities | | | | |
|---|---|---|---|---|---|
| | 1992 | 1993 | 1994 | 1995 | |
| | Number | Number | Number | Number | Percent |
| Total | 6,217 | 6,331 | 6,632 | 6,210 | 100 |
| **Transportation incidents** | 2,484 | 2,501 | 2,762 | 2,560 | 41 |
| Highway | 1,158 | 1,243 | 1,343 | 1,329 | 21 |
| Collision between vehicles, mobile equipment | 578 | 657 | 654 | 634 | 10 |
| Moving in same direction | 78 | 99 | 120 | 125 | 2 |
| Moving in opposite directions, oncoming | 201 | 244 | 230 | 244 | 4 |
| Moving in intersection | 107 | 123 | 144 | 97 | 2 |
| Vehicle struck stationary object or equipment | 192 | 190 | 255 | 268 | 4 |
| Noncollision | 301 | 336 | 373 | 350 | 6 |
| Jackknifed or overturned—no collision | 213 | 237 | 274 | 260 | 4 |
| Nonhighway (farm, industrial premises) | 436 | 392 | 409 | 388 | 6 |
| Overturned | 208 | 212 | 226 | 210 | 3 |
| Aircraft | 353 | 282 | 426 | 278 | 4 |
| Worker struck by a vehicle | 346 | 365 | 391 | 385 | 6 |
| Water vehicle | 109 | 120 | 94 | 84 | 1 |
| Railway | 66 | 86 | 81 | 82 | 1 |
| **Assaults and violent acts** | 1,281 | 1,329 | 1,321 | 1,262 | 20 |
| Homicides | 1,044 | 1,074 | 1,080 | 1,024 | 16 |
| Shooting | 852 | 884 | 934 | 754 | 12 |
| Stabbing | 90 | 95 | 60 | 67 | 1 |
| Other, including bombing | 102 | 95 | 86 | 203 | 3 |
| Self-inflicted injury | 205 | 222 | 214 | 215 | 3 |
| **Contact with objects and equipment** | 1,004 | 1,045 | 1,017 | 915 | 15 |
| Struck by object | 557 | 566 | 590 | 546 | 9 |
| Struck by falling object | 361 | 346 | 372 | 340 | 5 |
| Struck by flying object | 77 | 82 | 68 | 63 | 1 |
| Caught in or compressed by equipment or objects | 316 | 309 | 280 | 255 | 4 |
| Caught in running equipment or machinery | 159 | 151 | 147 | 131 | 2 |
| Caught in or crushed in collapsing materials | 110 | 138 | 132 | 99 | 2 |
| **Falls** | 600 | 618 | 665 | 643 | 10 |
| Fall to lower level | 507 | 533 | 580 | 573 | 9 |
| Fall from ladder | 78 | 76 | 86 | 97 | 2 |
| Fall from roof | 108 | 120 | 129 | 142 | 2 |
| Fall from scaffold | 66 | 71 | 89 | 82 | 1 |
| Fall on same level | 62 | 49 | 63 | 50 | 1 |
| **Exposure to harmful substances or environments** | 605 | 592 | 641 | 598 | 10 |
| Contact with electric current | 334 | 325 | 348 | 347 | 6 |
| Contact with overhead powerlines | 140 | 115 | 132 | 139 | 2 |
| Contact with temperature extremes | 33 | 38 | 50 | 55 | 1 |
| Exposure to caustic, noxious, or allergenic substances | 127 | 115 | 133 | 101 | 2 |
| Inhalation of substances | 83 | 68 | 84 | 62 | 1 |
| Oxygen deficiency | 111 | 111 | 109 | 94 | 2 |
| Drowning, submersion | 78 | 89 | 89 | 74 | 1 |
| **Fires and explosions** | 167 | 204 | 202 | 208 | 3 |
| **Other events or exposures**[2] | 76 | 43 | 24 | 24 | – |

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less that 0.5 percent or data that are not available or that do not meet publication criteria.

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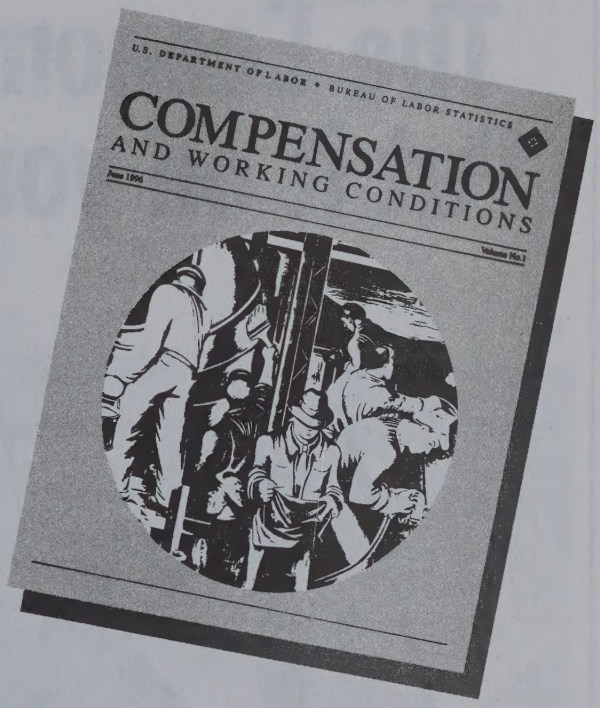


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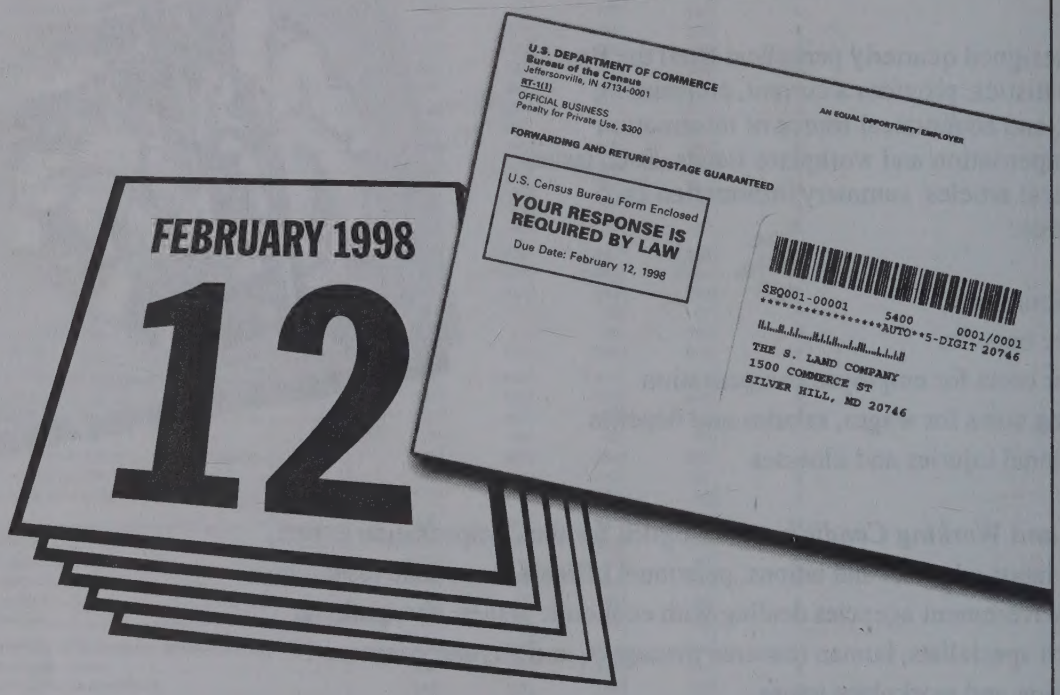


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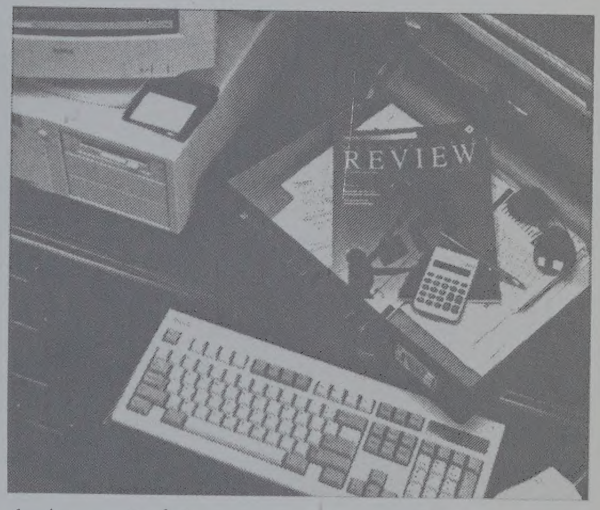


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